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THESES

An Evaluation of the Selection Techniques Used on
a Group of Dairy Route Salesmen

by

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(B.S. Tufts College 1947)

Submitted in partial fulfillment of
the requirements for the degree of

MASTER OF BUSINESS ADMINISTRATION



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INTRODUCTION

The problem of selecting the right man for the right job has been one which has plagued industry and business ever since it was learned that by careful selection and placement of men a greater degree of efficiency and control might be attained. In the modern business world with the emphasis on costs and production this problem has been even more accentuated. With the coming of the Second World War with its resulting production problems and labor scarcity a further impetus has been given to the attempt to find better and more efficient methods for selection and placement of men.

Methods used in selection have like most every other new and embryonic idea, gone through a definite evolutionary process. In the days before the First World War selection methods were, to say the least, crude. Employment managers based their hiring or rejection on purely personal whims or biases; the fact that an applicant had red hair might indicate to the employment manager that this man was quick tempered and easily aroused and would be a poor man, indeed, to hire for the company; or an applicant who had narrow eyes and a weak looking jaw was turned down because people with narrow eyes and weak jaws tended to be the sly, sneaky type who would run off with some of the company's funds or property. There were also other methods of selection in use during the period before World War I other than the observation technique just described. In some cases actual systems were devised by means of which the best men would be selected for the job. This attempt at "character analysis" took many forms; theories of astrology were developed, phrenology was attempted, and physiognomy was studied. Whether or not these devices were taken in a serious vein by the

people who devised them it is difficult to ascertain; but there is little doubt that they did have some effect, indirectly if not directly, on the practises employed by some employment managers in selecting employees. In some cases it only went to further strengthen the ideas and biases persons involved in hiring and selection already had; in other instances these theories and systems proved to be so disastrously wrong that they tended to alienate management against all other selective devices.

It was not until the First World War that actual progress was made insofar as the area of testing was concerned. The large amount of research which was carried on in the Army with the use of Intelligence tests "started the ball rolling" so to speak in the field of test development. The Army Alpha, one of the first tests of basic intelligence and the forerunner of the present day Army General Classification Test, was developed at this time. These tests experienced a considerable degree of success in evaluating and classifying men for various branches of the armed forces and in the period immediately following the end of the First World War they were highly praised. To quote one authority who reviews this era in test development, "Magazines and daily and weekly newspapers heralded the marvels of these tests. No wonder that throughout America psychological tests became regarded as a new form of magic." (1) Undoubtedly these tests and their predictive value were at the time greatly over-emphasized and were received with a degree of enthusiasm that was unwarranted. In the coming years these tests were to prove a disappointment, not so much because the tests had failed to live up to their own possibilities, but rather due to the fact that these instruments of selection failed to live up to what the imagination

1 Scott, W. D. et al, Personnel Management, V 1941, P. 152.

of over-enthusiastic personnel managers and educational administrators had thought them capable.

From the period immediately after the first World War up to the time of the depression in the early 1930's psychological tests were used as selective devices in industry and business with varying success. In the early years of this period tests were bought and administered by companies in the hope they would solve all of their selection problems. The tests were given widely and recklessly with little thought to proper administration, standardization of conditions, or correct evaluation. The results of this haphazard and unfortunate process began to manifest themselves in the later stages of this period. Many companies began to find that they were not experiencing successful results and the word spread that psychological tests were not dependable. In many instances psychological testing in industry received a black mark which it found difficult to overcome in later years. The conclusions which can be drawn from the experimentation with tests in this period are; (1) that psychological tests needed an administrator who was familiar with the tests and who could evaluate them, and (2) that standardization for industry in general and more specifically for definite types of occupations had to take place before any high degree of success was to be achieved in selection.

During the depression testing programs were generally discontinued by cost conscious industries and it was not until the late thirties and early forties that tests once more began to make a widespread appearance on the industrial and business scene. This recurrence was probably due to several main factors. One of these was that, while testing programs in industry were lying dormant during the 1930's, a great deal of experimental research and

study was being put into the development and standardization of various types of tests; tests which in general were more specific than the earlier intelligence and aptitude tests. Another factor was the growing interest and importance which was being placed on the psychological; more trained men were being put forth by colleges and universities; and more people were coming to realize the importance of psychological factors in industry as in everyday living. A third factor was the successful use of psychological tests by educational institutions; the experiences with psychological testing in education indicated that such things as aptitudes, abilities, interests, and traits could be measured. Finally, as the country commenced to rise out of the depression and employment increased, there was a need for more efficient methods of selection and placement. Management was becoming more and more conscious of the need to reduce the costs resulting from high labor turnover and unsuccessful training of workers. Thus new methods of selection were attempted in trying to solve the problem of finding the right man for the right job.

Up to the present time, in some areas of the industrial and business field, selection by means of psychological tests, planned interviews, and personal history data has met with a considerable degree of success. In certain jobs such as routine clerical work tests of clerical aptitude and general intelligence have proven to be quite useful in successful selection. Tests purporting to measure mechanical aptitude and the ability to perceive spatial relationships, along with a test of general intelligence, have been found to be fairly valid in selecting apprentice trainees for work of a mechanical or semi-engineering nature. In practically all instances where the job was of a specific nature, that is, where there were certain qualities

or aptitudes which an individual must have in order to be successful at the job, tests, used with other selection devices such as the interview and personal history sheets, were found to be helpful in selection. The key word in this last statement is "specific nature"; once the job was defined and analyzed it was usually not too difficult to know what to look for in prospective applicants, and by studying the applicant's previous experience or training and by testing him for known abilities or aptitudes required for the job a fairly valid means of selection was obtained.

In a great many situations in business and industry the above mentioned methods of selection offer no problem; however, in a few occupations there are still problems which are encountered for which the usual methods of selection, although used, do not meet with the same relative success. One of these occupations is that of salesmen.

The problem of successful sales selection is one which up until recent years has not been investigated with any large degree of thoroughness, despite the fact that there has been a growing need for this type of research. This has been emphasized by Rosenstein who has summed the situation up thusly,

"Here, then, is our problem; a definitely expressed need in the sales field. The selling side of salesmanship has been the subject of many books, articles, lectures, and sales manager's meetings; but, the examination and study of scientific methods of selection of salesmen has only very recently become an issue, demanding the serious attention and time of the forward looking sales executive." (1)

Canfield also has made it a point to bring out the problem of successful sales selection looking at it in terms of results,

"The penalties of poor selection are high turnover of salesmen, expensive recruiting, and a mediocre sales force. The turnover in many organizations is largely due to faulty selection." (2)

- 1 Rosenstein, J. L., The Scientific Selection of Salesmen, New York, 1944, P.2.
- 2 Canfield, B. R., Sales Administration, Principles and Policies, New York, 1947, P. 231

Even at the present time, although a great deal more research is being done, the problem of what makes a successful salesman still exists.

"Judging from recent studies made in the selection of salesmen, one must assume that personnel research has done little or nothing to help with this particular task. Even before the war one could not point to any notable or significant accomplishments in this field. Such a problem, of course, presents many varied and elusive factors for the work requirements for salesmen is not standardized. Some of the measurement studies in salesman selection that have been reported, showing varying degrees of success, are scarcely more than suggestions of channels that might be opened in the future. In many instances, rather questionable criteria for success have been used." (1)

One of the things which differentiates the sales selection situation from that of the usual business and industrial selection problem is the nature of the sales job itself. For one thing there are numerous types of sales jobs, ranging from the door-to-door salesman of household gadgets to the highly trained engineering technical salesman, each of which has different qualifications. For another, there seem to be intangible factors which are very difficult to appraise that are present and which determine whether or not a salesman will be successful in a certain type of sales job. For example, as sometimes happens, why does a salesman who scores high on tests, which were selected from an analysis of the job as measuring the important aptitudes necessary for success, prove less successful than a salesman who obtained low scores on the tests? In discussing the selection of Personnel Yoder points out that:

The function of selection reduced to its simplest form, involves the careful correlation of human characteristics and job requirements, to the end that the individual may fit the job.

1 Kilpatrick, F. H., Selection of Salesmen, Personnel Journal, 1944, 22, P. 349.

Such a process requires for its efficient operation: (1) the discovery of definitive job requirements for each position (the task of job analysis) and (2) the recognition and measurement of distinctive correlated human characteristics (the particular function of those who are engaged in selection). Human qualities are, however, difficult to describe, to classify, and to identify, and it is this elementary fact that makes the selective process a complicated one. (1)

Yoder is speaking here of selection processes in general but in the case of sales selection the two points which he brings out as necessary for efficient operation are made all the more difficult because of the intangible nature of the sales job and the lack of adequate measuring devices.

Thus exists the problem of selecting successful salesmen. In this paper we shall attempt to study the problem as it exists in one particular type of sales work -- the route salesman. In this evaluation we will not only attempt to make a report of the findings and conclusions drawn from our research but we will also introduce other studies which have been carried out in this field and relate them to this present project.

1 Yoder, Dale, Personnel Management and Industrial Relations, New York, 1946, P. 162.

CHAPTER I

The Company and the Job

The company whose salesmen were used in this study is a large retail and wholesale distributor of milk and other dairy products throughout a large area of New England. It's central office is located in Boston but there are also large regional branch offices located in large cities in each of the New England States from which distribution of the company's products takes place. The area in which the study was made consists of the region encompassing Boston and its outlying suburbs; therefore we shall devote the remainder of this discussion of the company to that locality.

Throughout the greater Boston area there are located various branch distribution centers which are supplied by the main plant located in Charlestown. At the main plant milk and other dairy products are received from outlying farm areas and are thence processed. It is here that such operations as pasteurizing, bottling, and so forth are carried on. The main plant also receives orders from the various branches and acts as supplier. The dairy products are sold from these branch centers by route salesmen who cover a definite assigned territory each day and who place their orders for products with the branch distribution center.

The Sales Organization

There are two members of the Board of Executives directly connected with the sales work of the company. Under these two men are four assistants each of whom have supervision over a specific number of branches. For each branch of the company there is a manager who may or may not have an assistant manager depending on the size of the branch. Below this in the organizational set-up there are the supervisors and foremen. There is usually one supervisor for every two foremen and one foreman for every three routes. The fore-

man may sometimes have a route himself. The route salesman are directly under the supervision of the foremen. One final figure is the spare driver who fills in for the regular route salesman on his days off. The job of spare driver is usually a necessary stepping stone before the prospective salesman may have a route of his own. These "spares" are rotated about on different routes within the branch. There are approximately six spare drivers for every thirty-five routes.

The Route Salesman

The job of route salesman for this particular company involves taking orders for various dairy products which the company produces, introducing new items to customers, and finally delivering the produce. The dairy products are quite varied; there are ten grades of milk, special types of milk such as skimmed milk and buttermilk, goat's milk, special novelty drinks such as chocolate and coffee drinks, cheese products and cheese spreads, and four grades of eggs. Along with these items there are occasional specialty items which are introduced such as cottage cheese put up in attractive ruby red glass containers which can be used as table glasses. The salesman travels his route in a small delivery truck which is owned by the company.

The route salesman is responsible for his own bookkeeping and is required to keep track of his accounts. At the end of each day the salesman makes out his order for the coming day on a special "Salesman's Order and Settlement Sheet.". Onto this sheet goes his order, estimated from regular daily consumption, plus special orders for special grades. These units which he orders are charged out to the salesman and he is responsible for them. They must either be returned to the branch or accounted for. The usual procedure is for the salesman to keep an account for each customer and leave a

weekly bill. He has one regular specific route over which he travels; this route is originally set up by the branch manager.

The company helps the route salesman in introducing his products to prospective customers by means of periodic advertising in the newspapers. In one local newspaper of a town, serviced by one of the branch distribution centers, a half page advertising layout introduced the new cottage cheese sold in "royal ruby table glasses". The write up of the advertisement read:

Just tell the _____ Route Salesman who serves your neighborhood how many you want and when you want them delivered. He'll deliver one a week or two a week, whatever is best for you, and there are dozens of delicious, economical ways to use creamed cottage cheese (Ask your _____ Route Salesman for folder containing 8 ways to serve _____ creamed cottage cheese.

The salary of the route salesman is figured on a base rate plus commissions. The base rate begins at \$22 and is increased to \$28 over a period of six months. His commissions are 4% of his total weekly collections plus a certain percentage based on the grade of milk that he sells. For example, he receives 3% of the sales of Grade A milk, 2% for the sales of Grade B milk, and 1% for his sales of Grade C milk. (These grades are simply the author's classification and do not represent the actual names of the various grades). This, then, offers an incentive for the salesman to exert a great deal more effort in attempting to sell more of the highest grade and most expensive milk. As an added incentive the salesman is also paid one dollar for every fifteen units that he sells above 440. A unit is equal to one pint bottle of milk or the equivalent. Finally the company allows the salesman \$2.08 for produce which may have been "drunk, broke, or stolen". A weekly wage of \$75 to \$100 is not uncommon.

Analysis of the Job

In the above sections we have covered the mechanics of the job, now, from a cursory analysis, lets us consider what some of the qualifications for the job might be. It would seem that the individual should have a fair degree of intelligence; he is responsible for a truck and the load of merchandise which is carried, he has to keep track of records, he has to maintain a reasonable schedule, and he has to meet people and converse with them. Although intelligence is not one of the more important factors it does enter into the overall picture.

A certain degree of clerical aptitude is probably necessary. The salesman is required to keep records and accounts and he must be able to handle figures.

The salesman must most certainly be able to drive and to drive well.

He must be strong and in good health. During the course of the day he is required to do a considerable amount of lifting and carrying of cases and bottles.

There must be a certain degree of interest in sales work. He should be of the persuasive type and also aggressive. There is, to some extent, a certain degree of competition in the Greater Boston area with numerous milk companies covering the same general areas. When a new family moves into the neighborhood the route salesman should note the moving van in front of the house as he passes by in the afternoon and be "Johnny on the spot" the next morning.

As to the degree of education which should be required for the job, it is difficult to say. In considering the nature of the job and the clerical work which is involved, it would appear that a route salesman should have at least a tenth grade education.

The factor of previous experience is probably not too important since the salesman gains experience by working as a substitute driver before he becomes an actual route salesman. However, previous sales experience in itself might be a valuable aid.

The above elements involved in the job are fairly tangible in themselves and are usually quite easily measured or evaluated. These are the elements which, from outward appearances, seem to make up the job; but they are not necessarily, as we shall see later, factors which tend to make for success on the job.

CHAPTER II

The Selection Process

In the Summer of 1947 the company experimented by using a short battery of aptitude tests along with their usual techniques in an attempt to improve their selection methods. Up until that time the company had been relying primarily on the information provided on the application blank and the interview in selecting their men. At the present time the application blank, the aptitude tests, and the interview comprise the main sources of information from which the selection of employees is determined. The remainder of this chapter will consist of a discussion of the main steps involved in the selection process for route salesmen.

The Application Blank

The application blank, a copy of which is on the following page, used by this company is general in nature and is used by applicants for all types of positions in the company. It calls for pertinent information about the individual which might prove useful in evaluating his future potentialities or success at a particular job. As a selection device it serves to eliminate those persons who do not meet the bare minimum requirements for the job. The general nature of this application blank for sales selection is perhaps a handicap in that a great deal more valuable information pertaining to sales work might be asked for in an application which only prospective route salesmen were asked to fill out. More will be said about this later.

The Interview

The next step in the selection process and the one which is

APPLICATION FOR EMPLOYMENT

WITH

14

 (DO NOT WRITE
IN THIS SPACE) →

 (BRANCH)

(TO BE PREPARED IN INK IN APPLICANT'S OWN HANDWRITING.)

→ NOTE: PHYSICAL EXAMINATION IS REQUIRED AS A CONDITION OF EMPLOYMENT ←

MALE ☐FEMALE ☐ SOCIAL SECURITY NO. _____

LAST

FIRST

MIDDLE INITIAL

LAST NAME

ADDRESS NO. _____ STREET _____ CITY _____ STATE _____ TELEPHONE _____

 ON TO BE NOTIFIED IN CASE
SICKNESS OR INJURY

NAME

RELATION

ADDRESS NO. _____ STREET _____ CITY _____ STATE _____ TELEPHONE _____

FIRST

POSITION APPLIED FOR 1 _____ 2. _____

SALARY DESIRED \$ _____ PER _____ DATE YOU WILL BE AVAILABLE _____

 ARE YOU EMPLOYED AT PRESENT? YES ☐ NO ☐ IF SO, MAY WE INQUIRE OF YOUR PRESENT EMPLOYER? YES ☐ NO ☐

 HAVE YOU EVER BEEN BONDED? YES ☐ NO ☐ CAN YOU QUALIFY FOR A SURETY BOND? YES ☐ NO ☐

 IF APPLYING FOR ROUTE DEPARTMENT POSITION, CAN YOU FURNISH A SMALL CASH BOND? YES ☐ NO ☐

 HAVE YOU EVER HAD TYPHOID FEVER? YES ☐ NO ☐

 HAVE YOU ANY PHYSICAL DEFECTS WHICH MIGHT PREVENT YOU
FROM PASSING A PHYSICAL EXAMINATION? YES ☐ NO ☐

MIDDLE

 DATE OF BIRTH _____ ARE YOU A CITIZEN OF THE UNITED STATES? YES ☐ NO ☐ IF NOT, DO YOU INTEND TO BECOME A CITIZEN OF THE U. S.? YES ☐ NO ☐

 HEIGHT: _____ FT. _____ IN. WEIGHT: _____ LBS. SINGLE ☐ MARRIED ☐
DIVORCED ☐ WIDOWED ☐ SEPARATED ☐

OCCUPATIONAL CLASSIFICATION

 NUMBER OF CHILDREN _____ AGES _____ OTHER DEPENDENTS _____
(FATHER, MOTHER, AUNT, ETC.)

 HAVE YOU ANY RELATIVES
EMPLOYED BY THIS COMPANY? { NO ☐
YES ☐

WHERE?

NAME

RELATION

HAVE YOU EVER BEEN EMPLOYED

 BY THIS COMPANY? YES ☐ NO ☐

WHEN?

WHERE?

POSITION

GRADE

SELECTIVE SERVICE ORDER NUMBER _____ CLASSIFICATION _____ DATE ASSIGNED _____

LOCAL BOARD NO. AND ADDRESS _____

(OVER)

EDUCATION AND TRAINING	NAME OF SCHOOL	NO. OF YEARS	DATE LEFT	OR	DATE GRAD.	COURSES TAKEN
GRADE SCHOOLS						
HIGH OR PREP.						
BUSINESS, TECHNICAL OR VOCATIONAL						
COLLEGE						
OTHER STUDY COURSES						

MACHINE SKILLS
(LATHE, DRILL PRESS, TYPEWRITER, COMPTOMETER, ETC.)

OTHER SPECIAL SKILLS OR TRAINING

OTHER FIELDS OF OCCUPATION IN WHICH YOU MIGHT BE INTERESTED 1.....

2.....

3.....

U. S. MILITARY SERVICE HIGHEST
OR TRAINING RANK.....
BRANCH (ARMY, NAVY ETC.) FROM MONTH YEAR TO MONTH YEAR

EMPLOYMENT RECORD

PREVIOUS EMPLOYERS	SHOW MO. & YR.		LAST DEPARTMENT AND IMMEDIATE SUPERVISOR	SALARY	REASON FOR LEAVING
	FROM	TO			
PRESENT OR MOST RECENT EMPLOYER: NAME..... ADDRESS..... NATURE OF YOUR WORK.....					
PREVIOUS EMPLOYER: NAME..... ADDRESS..... NATURE OF YOUR WORK.....					
NEXT PREVIOUS EMPLOYER: NAME..... ADDRESS..... NATURE OF YOUR WORK.....					
NEXT PREVIOUS EMPLOYER: NAME..... ADDRESS..... NATURE OF YOUR WORK.....					
NEXT PREVIOUS EMPLOYER: NAME..... ADDRESS..... NATURE OF YOUR WORK.....					

I HEREBY STATE THAT TO THE BEST OF MY KNOWLEDGE THE INFORMATION GIVEN IN THIS APPLICATION IS CORRECT AND
PERMISSION IS GIVEN FOR ANY INVESTIGATION THAT MAY BE NECESSARY.

APPLICANT'S SIGNATURE.....

APPLICATION REVIEWED AND ACCEPTED BY.....

(SUPERVISOR OR EMPLOYMENT INTERVIEWER)

perhaps the most important is the interview. The results of this are assigned the most weight in the final decision of whether or not to take the man on. It is not in the strictest sense of the word a planned interview; however, certain points are definitely brought up and covered during the course of the conversation. Such things which are considered important and which are investigated are the age of the individual; what his previous sales experience has been, whether or not he has had a good steady working record; what his education has been and its type; and if he is neat appearing and well groomed. Along with this attempts are made to find out something of the individual's personality, does he appear to be an aggressive persuasive type or is he more the "mousey" individual; what are his mannerisms? -- is he nervous or well-poised?; and finally, is he a responsible person?

Wherever it has been possible or thought to be important the route salesman is, after hiring, fitted to the route. That is, certain nationality types would sell better in areas made up predominantly of persons of his own background and upbringing, or persons familiar with a certain area would perhaps do better in that area. This policy is kept in mind during the interview and notations are made which might be of value in placing a man on a route in which he would be more likely to be successful.

It is at this stage in the selection process that a good deal of the weeding out is done. A great deal of emphasis is placed on the interview and if the applicant fails to meet the requirements of the interview, he is usually not recommended for further processing.

Aptitude Tests

This step in the selection procedure has not met with too high a

degree of success and as a result the company has not been placing too much weight on the results of the tests in final selection of the men. One member of the Personnel Department of the company states that 90% of the weight is placed on the interview and 10% on the aptitude tests.

When the aptitude testing program was first started three tests were used: The Wonderlic Personnel A, The Psychological Corporation's General Clerical Test, and the California Test of Personality (Adult Series). It was not too long before the California Test of Personality was dropped. The Personnel A and the General Clerical Test were selected from an analysis of the factors necessary in the job. Of these factors intelligence and clerical ability appeared to be important and could be measured by tests. Thus, the Wonderlic Personnel A and the General Clerical were selected to measure intelligence and clerical aptitude respectively. The California Test of Personality was administered at first in the hope of measuring that intangible quality sales aptitude but the company felt that it was not successful and hence the test was dropped. The company has done some research on the selective value of these tests; but, as far as could be determined, there is no "cutting score" below which men are eliminated. The results of the tests are in general considered in relation to the interview.

Physical Examination

A fairly thorough and complete physical examination is given to each prospective route salesman before he is finally accepted. Not only must the individual be in good physical shape because of the duties of the job, but also because standards of sanitation must be closely controlled in handling and selling dairy products.

Reference Check

A check is made of the references which the applicant's gave in order to further investigate some of the qualities brought out in the interview.

Interview by Branch Manager

In view of the fact that the Branch Manager is the officer who does the eventual hiring a final interview is conducted by him with the prospective salesman. The Personnel Department of the main office sends on its recommendations and notes on the applicant to the manager whereupon the interview takes place and final judgement is passed on the applicant. The main function of the Personnel Department of the central plant is to weed out the undesirables and to gather and evaluate the information on potential salesmen who have yet to be passed by the Branch Manager.

CHAPTER III

The Problem and the Study

Up to this point the author has been attempting to present a background of the nature of the job and the mechanics of the selection process; from here on, however, this paper will commence to deal with a discussion of the problem and the study.

Basically the purpose of the study has been an attempt to discover what qualities, either tangible or intangible, go to make up a successful route salesman, plus an evaluation of the selection procedure in an attempt to find what might prove to be more valid selection devices. Thus, also, we have the problem of finding out whether or not they are any factors which appear to prove important in differentiating the successful route salesman from the unsuccessful route salesman; and, if these factors do exist, what are they and how can they best be measured?

This problem in itself is not a novel one for it is characteristic of the selection problem in any sales organization - what are those factors which tend to indicate a salesman who will be successful? As was stated in the introduction, this problem is somewhat different from that of selecting the usual type of employees in industry. It's uniqueness being due to the unusual aspects of the job itself; that is, the many different types of sales jobs and the intangible qualities of the sales person which are difficult to measure.

These basic intangible qualifications of which we speak are named by Rados who states that there are four essential qualifications to the sales job,

"Although the characteristics of successful salesmen vary according to the specific job, four qualifications appear fundamental in every type of selling: They are, (1) motivation suitable for the job), (2) the power of persuasion, (3) Capacity for winning friendship, and (4) degree of self-reliance." (1)

He then goes on to say.

"The basic problem of measuring qualifications for sales success arises out of the fact that many of the most important basic factors that we want to measure are intangible". (2)

Another writer and investigator into the field of sales selection states the problem of selecting by psychological tests thusly,

"One basic difficulty results from the great complexity of the combination of abilities and aptitudes which constitute the equipment of the salesman, a complexity not easy either to analyze or to measure; while another problem is the determination of valid and adequate criteria of sales performance." (3)

With regard to other selection devices he states,

"Other results indicate less drastic conclusions. Improved selection methods were found among the standardized weighted application blank, carefully planned interviews and interviewers rating scales, and standardized question blanks and tests.

One critic (15) is concerned that tests used in selecting salesmen cannot do the job alone, but must be used along with application blanks and interview procedures. Another writer (9) states that it is especially noteworthy that practical studies do not limit themselves to psychological tests and it is clear that psychologists will need to continue to use these other procedures rather than to place sole reliance on the tests." (4)

1 Rados, William, How To Select Better Salesmen, New York, 1946 P. 6.

2 Ibid., P. 11.

3 Flemming, Edwin G. and Cecile W., A Qualitative Approach to the Problem of Improving Selection of Salesmen by Psychological tests, The Journal of Psychology, 1946, 21, P. 130.

4 Ibid., P. 132.

Not only is there the problem of how to measure and evaluate the various factors which go to make up a successful salesman but there is also a problem involved in determining how much weight to place on these factors. For example, in some sales jobs there may be a certain amount of intelligence required but from job to job the degree of intelligence required may vary in relation to some other desired trait. An illustration of this is found in a study involving the selection of bottled liquor salesmen. There was some degree of intelligence required for the job and as part of the selection battery an intelligence test was given; however, it was found quite soon that those who scored highest on the intelligence test did not make the best salesmen. The reasons for this could be found in the nature of the job. The salesman had to make the rounds of bars and night clubs, he had to know how to talk to bartenders, and a repertoire of jokes was a necessity. By and large the person of higher intelligence would probably not find the job too stimulating for long. Thus, the amount of weight which is to be assigned to the various aptitudes and traits necessary for successful selection presents a problem in itself.

THE STUDY

In an attempt to solve the above problem, at least in part, the study upon which this paper has been based was undertaken. It is a study which could have been carried further but due to certain limitations this was not possible. Making a study in a practical business situation is something quite apart from the controlled type of situation which one finds in a psychological laboratory or in an educational research situation. The main purpose of the company is hardly to further and aid the

cause of research and as a consequence the individual involved in such a project often finds himself subjected to limitations on data as well as research techniques. In this particular research project further study might well be undertaken particularly with further testing devices and types of criteria; however, more will be said pertaining to this area later on.

Selection of cases

At the beginning of the study as many cases as possible were gathered together as potential material. As a requisite for being on this temporary list each salesman had to have test scores on at least the Wonderlic Personnel A and the General Clerical Test; he also had to be rated by the manager of the branch office from which he operated; and there had to be a fair amount of personal information about him such as previous sales experience, age, marital status, and education. This original list consisted of 154 potential cases. After reviewing the information on each salesman more thoroughly it was found that various fragments of information were missing from the records of numerous men. Every attempt was made to select one compact group with which to conduct the study for the sake of valid statistical data. As a result the original group of 154 salesmen was reduced to a total of 87. Within this group there was also a sub-group of men who had taken the California Test of Personality. The sub-group consists of 47 men and is a part of the original 87. This sub-group was used as the basis for a study of the value of the California Test of Personality in selection.

The Data

Considerable difficulty was experienced in gathering sufficiently

complete data. The complete data which was obtained for the group of 87 salesmen consisted of a rating for each man by the branch manager, the test score of the Personnel A test, a total score and sub-section scores of the general clerical, the age of the individual, his marital status and number of dependents, education, and previous sales experience. In the case of our sub-group of 47 men there should be added the total score of the California Test of Personality, the score in each of its two major parts (Self-adjustment and Social Adjustment), and finally, a score for each of the 12 personality traits the test purports to measure. This list of data consists of the complete information which was available to the author.

The Rating

Most of the above data is self-explanatory but perhaps something should be said concerning the ratings given to the salesmen. A rating sheet (Page 23) was distributed to the managers of the branches sometime after the use of tests as a selection device had been installed. The branch managers filled out this and returned it to the main office. At a later date members of the Personnel Department of the main office conferred with the branch managers about the men rated and from this conference the man was placed into one of three groups: above average, average, and below average. In making these final ratings the nature of the route and business conditions were considered in evaluating the salesman's success. Although other factors such as the two just mentioned were taken into consideration the main determining factor in rating the men was his sales record.

The Criteria

In attempting to evaluate the success or failure of an employee

FOLLOW-THROUGH ON NEW SALESMEN

Date: _____

Salesman: _____ Branch _____ Rt. No _____

1. Is he developing into a satisfactory salesman? Yes _____ No _____

2. Is he "standing up" physically? Yes _____ No _____

Comment: _____

3. Does he get along well with

a) fellow employees?	Yes _____	No _____
b) supervisors?	Yes _____	No _____
c) customers?	Yes _____	No _____

Comment: _____

4. Is his attitude and interest good? Yes _____ No _____

Comment: _____

5. Sales Record

a) Units carried when route taken over (Date: _____): # _____	Now # _____
b) \$ outstanding " " " " (Date: _____): \$ _____	Now \$ _____

Comment: _____

_____Signed: _____
(Division Personnel Mgr)Rev. By: _____
(Division Sales Mgr)Rev. By: _____
(Sales Promotion Mgr)

(Please send to Personnel Records Department for filing)

with respect to his job it is necessary to have some standard or measurement by which his work can be judged. Obviously this criteria may take numerous forms, depending on the type of work which it is desired to evaluate. In the case of salesmen there are numerous possibilities; one of the first, most logical things, which we would think of is the amount of sales that the individual has made, another may be the total volume of sales dollars that he makes, and another may be a subjective rating of the salesman with regard to his sales technique, his initiative, and the amount of good-will he establishes for the company.

There is often a very definite problem in determining exactly what is suitable criteria against which to evaluate men. In some cases what we think might be an accurate measure of a person's success on the job is not necessarily so at all -- this is particularly true when it is considered in the light of such a job as salesman. In a study conducted by Dorcus which was an attempt to evaluate the efficiency of door-to-door salesmen it was found, with regard to criteria, that,

"The ordinary criteria of volume of business and rating by superiors is unsatisfactory for evaluating door-to-door salesmen unless a detailed analysis of the route on which the salesman works is available."

Dorcus continues,

"Now it is perfectly clear that the selection of a salesman of this type or any other type, by test procedure, will be no more reliable than the reliability of the criteria against which we must match the results of test selection." (1)

To add further confusion to the already cloudy picture of whether or not there is such a thing as a true criterion of success Kirkpatrick

1 Dorcus, R. M., Methods of Evaluating the Efficiency of Door-to-door Salesmen of Bakery Products, Journal of Applied Psychology, 1940, 24, P. 589.

suggests that:

Personnel research in the field of salesman selection is made very difficult because of the specificity of sales work. Criteria for evaluation are often unstable because of the great diversity of situations met by the men studied. Amount of earnings cannot always be taken as a criteria of success, since some salesmen have more production territories. For the same reason volume of sales is inadequate. (1)

There can be little doubt but that the determination of a suitable sales criterion is met with many perplexing difficulties. To contradict some of the above statements, Rosenstein says that the primary criterion is, or should be, sales productivity, which may be most simply expressed as the dollar volume of sales. (2) However, in the light of other findings, to rely simply on this as the only criterion would be to take a rather naive point of view. Nixon believes that there are five variables which directly affect sales productivity, and that any attempt to establish a criterion must be done with due regard to the influence of each of these variables:

1. Nature of the territory or opportunity
2. Nature of the cooperation given the salesman by his company
3. Length of time spent with the company
4. Previous sales experience
5. Health of the salesman (3)

To quote one final investigator of the problem of valid criteria Cunningham points out that the preparation of a detailed job analysis for each sales position is the only legitimate foundation for determining measure

- 1 Kirkpatrick, F. H., Selection of Salesmen, Personnel Journal, 1944, 22, P. 351.
- 2 Rosenstein, J. L., The Scientific Selection of Salesmen, New York, 1944, P. 36.
- 3 Nixon, H. K., Principles of Selling, New York, 1942, P. 77.

of sales performance. (1)

In this study there was only one possible criterion for evaluating the success of the route salesman and that was the ratings which the route managers turned in on the men. In light of the above mentioned research the question might well arise as to how valid were these ratings and what affect might they have on the total validity of the study?

Evaluating the Data

In Chapter Five we shall discuss in more detail the statistical treatment of the data and the problems encountered; however, at this point brief mention might be made of how the data was evaluated and drawn up. The first step consisted of making up compact charts listing all of the data for all of the 87 route salesmen in the study. Following that form tables were constructed for all of the tests, sub-sections of the tests, and sub-tests. Correlations were run to find the relationship between the test scores and ratings given the salesmen. Further correlations were run off to find out if there was any relationship between success on the job, as measured by the manager's rating, and such things as age, education, marital status, and total number of dependents.

Throughout this process every attempt was made to find any significant relationship between available data on the individual and his sales success or, in other words, what characteristics or qualities an individual appear to be the most significant as far as predicting his future success in this particular job is concerned?

1 Cunningham, R. M., Some Problems in Measuring Performance of Industrial Salesmen, Harvard Business Review, 1935, 14, P. 98.

CHAPTER IV

Research in Salesman Selection

An ever increasing amount of research is being conducted in an attempt to find out what the qualities of a successful salesman are and how these qualities might be measured. In general it has come to be recognized that there are differences in sales jobs just as there are individual differences among men; therefore, most of the research which has been done is with respect to certain types of sales positions. From these specific studies some theories and generalities have come with regard to the total problem of what makes a successful salesperson.

In regard to this present study on route salesmen we could find little previous research; the closest study being conducted by Dorcus on door-to-door salesmen of bakery products, a job which is much the same in nature to that of a route salesman. (1)

In discussing and reporting on previous research in this field it is not with the idea in mind that it will pertain directly to the problem which confronts this study but rather it is with the idea that some of the findings and results may clarify the general problem as it exists, as well as aiding in the evaluation of the specific problem involved here.

The Problem of Selection Methods

In general, practically all research workers have agreed upon a general procedure and system for the process of selecting salesmen. At a symposium on Research in the Selection of Salesmen held in 1940 and reported in the Journal of Applied Psychology Kornhauser and Schultz reported

1 Dorcus, R. M., Methods of Evaluating the Efficiency of Door-to-door Salesmen of Bakery Products, Journal of Applied Psychology, 1940, 24, P. 587 - 594.

"that of the studies reported the selection methods emphasized seemed to be:

1. Standardized and evaluated application blanks (personal history ratings). Weighted scores being derived to predict candidates success or failure.
2. Carefully planned "diagnostic" interviews and interviewer's rating scales. The traditional interview being extended and organized to obtain more adequate appraisal of candidates in relation to job demands.
3. Standardized tests and question blanks.
 - a. Interest and attitudes
 - b. Personality traits
 - c. Mental alertness
 - d. Special knowledge and skill" (1)

They then go on to sound a warning note by remarking that "It is clear that psychologists will need to continue utilizing and perfecting selection procedures of the other types listed rather than placing sole reliance upon tests." (2)

It is apparent that before any real degree of success in salesman selection can be obtained there will have to be further advancement in and perfection of selection procedures. However, the development of further selective devices is hampered to a considerable extent by the nature of the sales job.

"Difficulties in developing selection devices for salesmen seem to fall into two types: (1) those due to the inability to isolate and measure personality attributes, and (2) those due to the specificity of a salesman's work." (3)

Kirkpatrick seems to think that further success in selecting salesmen will depend upon the development of better techniques for measuring personality.

- 1 Kornhauser, A. W. and Schultz, R. S., Research on The Selection of Salesmen, Journal of Applied Psychology, 1941, 25, P. 3.
- 2 Ibid., P. 4.
- 3 Kirkpatrick, F. H., Selection of Salesmen, Personnel Journal, 1944, 22, P. 349.

However, he does agree with Kornhauser and Schultz that the tools for selecting salesmen which have been most successful are "standardized personal history blanks, personality tests, interest tests, and interviews".

Difficulties Involved in Measurement

One of the first problems which confronts the personnel director or industrial psychologist in setting up a selection program is what are we going to measure and what do we want to measure? Of course, the largest part of this problem lies in the area of testing for it is there that we are attempting to do more specific measuring than would be true in the case of interviewing. A large part of the problem of identifying what we want to measure can be solved by a job analysis of the salesman's work; however, despite the analysis, there will most probably be some subjective factors involved in the occupation which will play an important part in making for success on the job but at the same time will be quite difficult to measure. At the same time we may have set up a testing battery which we believe will measure the desired traits only to find that there is no correlation between what we have attempted to measure and success on the job.

In many cases our preconceived notions about aptitudes and abilities may be shattered. Along this line Klein has pointed out:

"It has been thought that the smarter, the more intelligent a salesman is, the more successful he will be. This is not always true ---. It has been found that, in some industries and some types of selling, the less brains a salesman has, the more successful he will be. In many instances the slow witted, slow thinking salesman does the best job. This is because that job may require hard ceaseless plugging: because the job may wear out irritate, and destroy the morale and sensitivity of

of a more intelligent man. In such jobs fast thinking and a fast intelligence would be a serious handicap. (1)

Klein recommends that

"To establish the speed of thinking required for any type of selling job, each company should take a cross section test of its own salesmen. The range of mental ability most desirable should be found among the groups of the more successful producers".

The problem of measuring sales ability has been further emphasized in a paper which was prepared from a summary of opinions of 25 of the top men in the field of psychological testing. One of their conclusions was that,

"while you can't measure sales ability as such there are tests which properly used and interpreted can help in selecting salesmen."

Of the tests now being used they stressed vocational, personality, and mental ability tests as those being the best for measuring sales success. Along with the use of tests they also recommended the use of personal data sheets, weighted application blanks, and patterned interviews. In the final selection they assigned weights of 27% to the weighted application blank, 45% to the interview, and 28% to the psychological tests. (2)

In the same report these men warn against haphazard use of psychological tests in many different sales jobs. Emphasizing the specificity of sales jobs and the specificity of the tests they cautioned:

"Different tests work with different success for different types of salesmen. Probably there is no single job title that means as many different things as "salesman". The same

- 1 Klein, Jack, Some Simple ABC's About Aptitude Testing for Salesmen, Sales Management, 1940, 47, P. 25.
- 2 Allen, W. S., Psychologists Answer Most Questions About Aptitude Testing, Sales Management, 1945, 54, P. 76 - 76.

tests obviously will not work with equal success in selecting dime store girls, junk salesmen, insurance salesmen, etc. In general specific tests of sales aptitude, intelligence tests, and personality tests are most satisfactory, but this does not mean that the proper salesmen are only the people who score highest on the intelligence test. (1)

Other men have attacked this problem of measuring sales ability in ways other than the use of tests, interviews and application blanks. Moore appears to stress the need for an over-all enviromental and subjective study of the salesman and the job.

"The fact that psychological tools, to be effective in the selection of salesmen, must be appraised in terms of the nature of the product that is sold, the territory that is served, the personnel of the organization, and the various incentive and remunerative devices that have been accepted as motivating factors in spurring on the salesman to exert his maximum efforts, has lifted the problem of selecting salesmen from the realm of a simple examination of the individual to an appraisal of the manner in which the company-sponsored and enviromental factors have affected salesmen of particular products in the immediate past. This has been instrumental in bringing about abandonment of the idea that batteries of tests for selecting as such can be developed, and has led to the practise of studying salesmen in their economic and enviromental setting, and using such studies as bases for predicting the chances of success of present applicants.

Although it is true that tests for selecting salesmen must be constructed in terms of other factors besides the personal qualities of the salesman, it is also true that there is considerable similarity in the economic and enviromental factors affecting salesmen, and that the products that are sold and the territory that is served have many common elements. It is the extent to which common elements can be found that basis for prediction can be established." (2)

- 1 Allen, W. S., Psychologists Answer Most Questions About Aptitude Testing, Sales Management, 1945, 54, P. 74.
- 2 Moore, Herbert, Psychology for Business and Industry, New York, 1942, P.349.

In this same vein another observer stresses the importance of the job environment. He believes that the problem of measuring an individual for sales ability involves not only a consideration of the kind of work that is to be done but also job environment. By job environment he means,

"Those factors which together with the salesman's personal traits determine his length of service and the quantity and quality of his accomplishments. (1)

Another point of view is introduced by Drake, who offers up the theory of "sales perception". He states that, "sales perception" or "perceptual response" is defined as the first response after sensation; therefore, the perceptual response is one which rejects the inappropriate meanings which sensation might produce and accepts the most appropriate. Thus, this sales perception is the ability of an individual to be able to differentiate the right thing to do from other possible courses of action and then know when to do it. (2)

Drake ties in his "sales perception" with the problem of measuring sales ability in the following manner:

"The field of salesmanship is one in which specialized perception must be of great importance. Many sales managers maintain that good salesmen are born, not made. Certainly the standard techniques of selling, like the rule of bridge, can be learned by almost anyone. But the perception of the situation that determines the applicability of the techniques depends upon some innate ability. Such ability is probably, like other perceptual abilities, little subject to change by training.

The problem of selecting salesmen, therefore, becomes one of selecting persons of high measured sales perception.

- 1 Stokes, T. M., Selection Research in a Sales Organization, Journal of Applied Psychology, 1941, 25, P. 42.
- 2 Drake, C. A., Personnel Selection by Standard Job Test, New York, 1942, P. 139.

The reason for the only moderate success in sales selection by means of tests is due to the fact that these tests are not measuring sales perception and therefore are not giving a measure of the function upon which success demands.

The trouble with such tests is that they are verbal. That is, they are expressed verbally - in words - and the responses are verbal. The sales situations are presented through the medium of words and sentences. Perception of words and verbalized ideas is not the equivalent of sales perception but only the equivalent of itself - perception of words and phrases." (1)

This problem of determining what we want to measure in attempting to predict sales ability is one which cannot be solved in a general way. Rather it is a situation where each type of sales position has its own specific qualities that have to be measured and the resulting problems of measurement. The problem is not one of generalities but rather stems from the specificity of the various types of sales jobs and the specificity of the qualities, both tangible and intangible, which we are attempting to measure.

We have discussed some of the work that has been done on solving the problems of selection and measurement in general now let us consider some of the research which has been done along specific lines.

The Application Blank

In general the application blank is used to obtain basic information about an individual who is applying for a job; as such, it acts as a crude selective device by eliminating those who do not possess the minimum qualifications. However, in recent years research has shown that the application blank may serve as a more effective selection device if it is made up

1 Drake, C. A., Personnel Selection by Standard Job Tests, New York, 1942, P. 131.

in the form of a weighted application blank. That is, essential information which is believed necessary for the job is asked for in the application. This information is weighed according to its relative importance in the particular job and numerical values are assigned to each bit of information offered. If in a particular job, education is found to be of importance a value of 4 may be assigned to a college education, 3 to two years of college, 2 to a high school education and 1 to education below a high school level. In this same job previous sales experience may also be important but not to the same degree that education is. As a result a weight of only 2 may be assigned to the factor of previous sales experience. To determine whether or not the individual has the necessary qualifications one simply adds up the points which have been assigned to the various questions on the application blank.

In making up the weighted application previous study should be made to determine what qualifications appear to be more characteristic of successful salesmen. This can be done in part by studying previous application blanks of successful and unsuccessful salesmen and picking out those qualifications which tend to differentiate the two. As Rosenstein points out,

"The only true basis for using the information found in the application blank for selection of salesmen is the one of comparison, the comparison of the data of applicants, with the data of successful men" (1)

However, one should be careful that the data for successful men is not the same as the data for unsuccessful men; the only way to make sure of this is by comparing the two before making any comparison with new applicants. Once the qualifications have been determined they may then be used as a basis for making up the weighted application. The degree of weight which is assigned

1 Rosenstein, J. L., Scientific Selection of Salesmen, New York, 1944, P. 74.

to each trait or qualification will depend on the degree to which it correlates with success on the job.

Research and analysis by such workers as Russell and Cope, Manson, Steward, Goldsmith, Swartz, and Andrews has shown that, in certain general sales fields, high discrimination value is found in the following application blank items: age, education, marital status, number of previous jobs, years of experience in sales work, and number of clubs or social organizations of which a man is an active member. (1)

The Interview

Of all the selection devices the interview is the one to which the greatest amount of weight is assigned in making the final decisions. It is "the most common method of selecting salesmen and the most important step in the selection process." (2) "The interview should have for its major purpose the elimination of men rather than the selection of men. It should be used for the purpose of discovering whether the man looks good enough ---". (3)

As to the nature of the interview there are apparently three schools of thought in the business world: one group believes that an interview is an informal chat, requiring no more forthought or planning than a casual neighborly conversation. A second group urges that a "Planned" or "patterned" interview be used, with perhaps an informal recording of personal impressions of the applicant following the interview. The third group supports an all-out

- 1 Rosenstein, J. L., Scientific Selection of Salesmen, New York, 1944, P. 80.
- 2 Canfield, B. R., Sales Administration, Principles and Policies, New York, 1947, P. 240.
- 3 Rosenstein, J. L., Scientific Selection of Salesmen, New York, 1944, P. 129.

interviewing program, complete with a written list of topics to be covered and a carefully devised rating scale, the items of which may or may not be statistically weighted. (1)

McMurray who has done a considerable amount of research into a subjective study of the individual for successful sales selection sums up the importance of the interview thusly:

There are no written psychological tests which provide more than superficial insight into an individual's personality make-up. None are available to determine what a man will do under pressure and the influence of his domestic life on job success.

In view of this, interview and observation techniques must be employed. Methods which make use of clinical rather than statistical procedures are most effective in dealing with personality and family relationships. Personality is a complex of many traits which may be present in varying strengths and configurations or patterns.

It is therefore impossible to find a single index which can express these complicated relationships -----.

The simplest and most reliable method for obtaining an insight into the outstanding traits which compose a man's personality is to let him outline in detail and in his own words the history of his life from maturity, through school, and back to his childhood, with special attention to his business, social, family, and domestic relationships. (2)

McMurray believes that employment interviews generally suffer from four major weaknesses:

1. The interviewer does not know what questions to ask.
2. The interviewer rarely has any plan for interpretation of the information which he obtains from the applicant.

- 1 Cleveland, E. A., Sales Personnel Research, 1935-1945, Personnel Psychology, 1948, Vol. 1., No. 2, P. 231.
- 2 MacMurray, R. M., Sales Ability, How to Analyze it Through Personal Interviews, Sales Management, 1940, 46, P. 58.

3. Many interviews are seriously biased.
4. In a "tight" labor market, the interviewer is often so anxious to employ the applicant that he really doesn't want to discover anything seriously prejudicial to his prospective employment. (1)

To compensate for these weaknesses in the interview procedure such devices as the planned or patterned interview and the interviewer's rating sheet have been devised. According to McMurray the standardized or patterned interview overcomes the weaknesses of the general type of employment interview by:

1. Providing the interviewer with a specific list of questions and a form on which the answers must be recorded.
2. Providing the interviewer with special training in the theory of personality and in the technique of the interview.
3. Avoiding prejudices and biases by carefully choosing the interviewers. (2)

The whole principle of the patterned interview is based on the assumption that the best basis for the prediction of what a person will do in the future is a careful study of what he has done in the past. (3)

The process by which a patterned interviewing procedure may be set up is described by McMurray as consisting of:

1. Deciding what information is to be obtained and where it can be gotten. The two primary sources are the previous employer and the appli-

- 1 Mac Murray, R. N., The Interview Pattern, Industrial Relations, 1945, May, 13:4.
- 2 Mac Murray, R. N., Six sound Reasons Why You Should Use a Patterned Interview in Hiring Men., Sales Management, 1944, 53, P. 27.
- 3 Ibid., P. 28.

cant himself.

2. A careful study of those sales positions for which hiring is to be done, by interviewing satisfactory and unsatisfactory employees who are already on the job. From these interviews it will be possible to determine which traits are important for job success.

3. Prepare an interview form covering five areas with detailed questions prepared for each area. These areas should include the work record, schooling, early home enviroment, present domestic and financial situation, and health record.

4. The proper conduction of the interview with establishment of good rapport and the use of the indirect approach. (1)

MacMurray believes that this system lends itself to sales selection for several reasons. The first of these is that the traits which the patterned interview are designed to measure are of first importance in selling; others are that it can be put to use immediately; it can be used in organizations where the number of men is too small to permit the development of the weighted application blank and tests; it provides a comprehensive written report of the applicants background and experience, reports can be used at a later date for reference for promotion, transfer, etc.; and finally it may reveal weaknesses in the applicant which are not sufficiently serious to justify his rejection. (2) MacMurray reports that in one large sales organization where this type of interviewing was done that failure during the probationary period was reduced 75%. (3)

- 1 Mac Murray, R.N., Six Sound Reasons Why You Should Use a Patterned Interview in Hiring Men, Sales Management, 1944, 53, P. 28.
- 2 MacMurray, R. N., Six Sound Reasons Why You should Use a Patterned Interview in Hiring Men, Sales Management, 1944, 53, P. 26-27.
- 3 Ibid., P. 28.

Another interviewing method close akin to the patterned interview is the use of the interview guide and the interviewers rating sheet. This method does not go into the great detail that is involved in MacMurray's plan. The interview guide is simply a list of points which are to be brought up during the interview and the interviewer's rating sheet is a rating sheet which allows the interviewer to rate the applicant on certain definite traits or characteristics which have been found to be important in selecting successful salesmen for a particular job. With respect to the interviewers guide and rating sheet Canfield states that,

"It is a valuable tool for aiding the interviewer in evaluating the applicant. It is useful in recording impressions as they are made so that they may be reviewed and appraised at leisure. It also provides a list of the characteristics to observe. The guide should be based on an analysis of the sales job for which the applicant is being considered." (1)

The purpose of the standardized interview used by the Tremco Manufacturing Company for applicants for sales positions is,

"to suggest to the interviewer specific lines of inquiry which will enable him to tabulate information pertinent to each of these subjects, and to give him a well rounded picture of all details of background, education and business experience which have a bearing on them." (2)

Aptitude, Personality, and Vocational Testing

One of the greatest difficulties encountered in the selection of sales personnel has been the problem of measuring so-called "sales ability". Indeed, there is the further problem of determining whether or not there is such a thing as sales ability, and, if so, of what does it

- 1 Canfield, B. R., Sales Administration, Principles and Policies, New York, 1944, P. 252.
- 2 Anon., Tests and Personal History Ratings in the Selection of Salesmen, American Management Association, Supplementary Matching Series, 194, No. 1, P. 25.

consist. Is it a mental ability which is dependent purely on the intellectual power of the individual, is it the integration of personality traits into a particular type of whole, or is it a manifestation of a person's interest and liking for that particular type of work?

Numerous attempts have been made in an effort to measure or discover the nature of this elusive factor of "sales ability" but as yet none have met with any particularly high degree of success. Some research workers have set their sights definitely toward the development of a "sales aptitude test" which would predict success in sales positions. Other parties have alleged that sales ability may be expressed as a pattern of traits which can be most effectively gauged for each individual through the administration of a selected battery of tests. Still others claim that not only is a battery of tests necessary, but that there is no universal entity which can be properly identified as "general sales ability", and that the definition of "sales ability" will differ from one situation to another. The adherents of the latter view are generally those who urge the development of tailor made tests for each firm interested in using tests as selection devices for their sales personnel. (1)

There has been some variance in the reports of the success of aptitude testing in salesman selection. Canfield offers the following information concerning to this:

Aptitude tests have produced certain significant results for companies which have experimented extensively with them by matching test scores with the productiveness of present salesmen and using this information in testing and selecting

1 Cleveland, E. A., Sales Personnel Research, 1935 - 1945, Personnel Psychology, 1948, Vol. 1, No. 2, P. 234.

new salesmen. The benefits of sales aptitude tests are that they improve selection by screening out those who are likely to fail, and serve as a check on the prejudices of the interviewers. They are not, however, predictive of sales success.

The limitations of aptitude tests, however, must be recognized. They are still in an experimental stage of development and cannot be considered scientific. After an extensive study of sales aptitude tests, one of the largest corporations reported to its distributors:

Good sales aptitude tests are a valuable aid in selecting salesmen. They are not infallible and should be used as a supplement to, rather than a substitute for, the personal interview and other established methods for employing salesmen. (1)

Canfield reports further on a study of 1800 sales executive and psychologists by the Dartnell Corporation which led to the following conclusions:

There has not yet been developed any one standard "salesmanship" test dependable for all companies and it is improbable that such a test can be developed. No psychological test or tests have yet been devised that can be safely administered and interpreted with reference to the needs of the particular company involved and if they are interpreted by a psychologist experienced in the use of such tests for salesmen. (2)

A report which is at variance with the above is offered by Rosenstein, who believes that "The references and the interview should be used only to eliminate the obviously unfit and to select those who should be given further consideration. Final selection or rejection must be based upon standards from the application blank research and the tests." (3)

- 1 Canfield, B. R., Sales Administration, Principles and Policies, New York, 1947, P. 257.
- 2 Ibid., P. 261.
- 3 Rosenstein, J. L., Scientific Selection of Salesmen, New York, 1944, P. 130.

Another report concerning the use of aptitude tests comes from the American Management Association which conducted a survey concerning management's use of tests. It was found that:

Tests are only one of several modern selection aids used to supplement the interview. The extent to which test ratings influence the decision to hire varies greatly in different concerns. Nine companies whose programs are still in the experimental stage hire new men regardless of test ratings. Nine others state the percentage of weight attached to tests results in figures ranging from 25% to 75%. Others never hire an applicant whose test rating is below the accepted standard. A number of concerns stress the rejection value of tests in weeding out unfit candidates. (1)

In this survey the question was asked, "What personal qualities do you believe are evaluated or measured"? A trained psychologist who answered the questionnaire for his company replied,

"Do not care to define. All the applied psychologist is interested in is whether or not the test measures the thing which is success."

As implied in this comment, the problem is to determine which individual qualities are most closely related to success and then to find tests or formulate questions which will measure these qualities. (2)

In the above study those qualities and abilities which were mentioned most frequently were mental ability, personality, vocational interest, dominance, emotional stability, sales aptitude, and math and clerical ability.

In reply to a question asking how much importance do they place on test results the companies offered a variety of answers. Of the ones that

1 Anon., Tests and Personal History Ratings in The Selection of Salesmen, American Management Association, Supplementary Marketing Series, 1941, No. 1, P. 4.

2 Ibid., P. 12.

gave a definite percentage the ratings are:

Less than 25%	-----	1
20 - 30 %	-----	1
50%	-----	2
50 - 75%	-----	1
60%	-----	1
75%	-----	3

Some of the verbal replies to the above question were:

"The interview is still the most important element in our method. The tests are chiefly for negative purposes."

"Test reports are used largely in confirmation of our own opinions."

"Weighing depends on the individual case."

"The test is one more factor to support the interview and personal data blank as a check on the man." (1)

Mental alertness or intelligence is one of the factors which is usually measured in batteries of tests used in selection. However, much of the research at present seems to indicate that mental alertness is not necessarily too large a factor in making up a successful salesman. Nineteen of the top men involved in psychological testing concluded with relation to sales ability and intelligence that (1) A person must have a degree of mental alertness to understand the object or the idea that he is selling. Beyond that there is not correlation between mental alertness and selling ability. (2) Mental alertness is not important for most sales groups but it may be for certain types such as technical selling. (3) The relationship is between the levels of selling. There is no correlation between selling perse and intelligence. (2)

1 Ibid., P. 15.

2 Allen, W. S. Psychologists Answer Most Questions about Aptitude Testing, Sales Management, 1945, 54, 73-76.

In another study conducted by Lovett and Richardson for the sales department of Proctor and Gamble they found that mental alertness was important in selecting men for sales promotional work but that it was less of a factor in selecting men for routine sales. (1)

Husband is of the same opinion on this point. "Intelligence," he says, "is not particularly important, unless one happens to be selling a very complex or technical article." (2)

Although aptitude tests in the form of intelligence or mental alertness tests have been used widely in batteries for sales personnel selection, other tests such as personality inventories and vocational preference records have also been used to a considerable extent. Research has been shown that in most companies upon which studies have been made the typical salesman selection battery consists of tests of intelligence, personality, vocational interest, and one final test designed to measure any particular aptitude which the company considers important for the particular job. Rados reports that:

In nine cases out of ten, a battery, or group of tests given to applicants for sales positions consists of at least four different types of tests; (1) Intelligence test which measures mental brightness, (2) Personality test; (3) Interest test, which measures whether he is really interested in selling, and if so to what extent. These three tests reveal much about a man, but something more is needed, hence the fourth test. This varies with the sales organization - one concern uses a sales knowledge test, another a vocabulary test, another a test for sociability, another an arithmetic test. (3)

- 1 Lovett, R. F. and Richardson, M. W., Selecting Sales Personnel - The Significance of Various Types of Test Material, Personnel Journal, 1934 12, P. 250.
- 2 Husband, R. W., Personality Traits of Salesmen, Journal of Psychology, 1936, 1, P. 229.
- 3 Rados, William, How To Select Better Salesmen, New York, 1946, P. 286.

As of late a great deal of attention and emphasis has been placed on the tests of personality and interest in selecting salesmen. This has been due partly to the failure of intelligence tests to differentiate the successful from the unsuccessful salesman, and partly because personality and interest tests have been felt to be better measure of the intangible, vague qualities of a salesman's job.

One thing which needs to be determined is what seems to be the personality make-up of the average sales person? Johnson O'Connor is of the opinion that the salesman has to possess an "objective personality". He has found that this type of person is usually the more favorable type for sales work; although some subjective types do make good salesman, depending, once again, on the nature of the sales job. (1)

In an experiment O'Connor measured the personality of 80 salesmen then divided them into four groups: extremely objective, objective, subjective, and extremely subjective. The results were:

Extremely objective	- -	Averaged 92 sales per man
Objective	- -	Averaged 65 sales per man
Subjective	- -	Averaged 45 sales per man
Extremely subjective	-	Averaged 32 sales per man (2)

Unfortunately no information is given regarding the nature of the sales job or the type of personality test used.

Husband believes that "since salesmanship is essentially a social occupation, personality traits are of special importance in determining success or failure." (3)

- 1 O'Connor, Johnson, and Kelley, E. M., What Traits Distinguish the Successful Salesman from the Dud?, Sales Management, 1940, 47, 29:5.
- 2 Ibid., P. 30.
- 3 Husband, R. W., Personality Traits of Salesmen, Journal of Psychology, 1936, 1, P. 225.

In attempting to find out what the personality traits of the successful salesman were, Husband conducted a study on 64 salesman using Stagner's personality scale. They were scored on four variable: Neurotic tendencies, introversion, self-esteem, and self-sufficiency. These results were then compared with the results from administering the test to 1000 undergraduate men and women. It was found that salesmen turned out to be better balanced, had greater self-esteem, a higher degree of self-sufficiency, and were somewhat more extroverted.(1)

One of the most significant conclusions which came out of the study, however, was as Husband suggests:

Possibly we should not suggest suitable scores for salesmen in general, but would have to quote separate norms for those selling different types of goods. Practice might take two forms: (a) that we would have entirely different scores for persons selling different types of goods or (b) that there may be traits which every successful salesman should have, and that superimposed upon these would be special characteristics necessary to sell different types of goods. For example, all salesmen should have traits enabling them to meet customers well, while the heartiness which might be of great advantage to a sporting goods clerk would not be appropriate to handling art goods. Thus we would have general and specific factors in sales personality, just as Spearman postulates for intelligence. (2)

This idea of one large factor of sales personality surrounded by smaller specific factors for definite types of selling situations offers further ideas. Might not this be the answer to the quest for "sales ability"? That is, there is one general factor of sales ability which is a necessity

- 1 Husband, R. W. Personality Traits of Salesmen, Psychological Bulletin, 1935, 32, P. 705.
- 2 Husband, R. W., Personality Traits of Salesmen, Journal of Psychology, 1936, 1, P. 231.

for all types of sales work. At the same time there are specific factors integrated with this large factor which cause a salesman to be successful in a specific type of selling situation.

Rados shatters this idea somewhat with a contradiction. He does not believe that sales personality exists as a unique trait in itself.

This has not as yet been demonstrated to be possible, because salesmen differ from other human beings only slightly, if at all, in the fundamentals of human behavior, motivation and reaction to other persons. Moreover, persons with many different types of personality have proved successful at selling. Practically speaking, however, it is possible to agree on tentative personality qualifications of aggressive-ness, handling of people, self-confidence, and the like, which appear to be reasonable assumptions for the special selling situations in a given sales force. (1)

Rados does agree with Husband in that there may be different types of personalities required to sell different types of goods.

"Personality as revealed by the tests must be interpreted in the light of job requirements."

In a study by Dodge which was an attempt to measure the social dominance of clerical workers and sales persons as measured by the Bernreuter Personality Inventory it was found that the Dominant-submissive score on the Bernreuter appeared to measure some trait or characteristic which experienced clerical workers possessed to a lesser degree than experienced salespersons. (2)

Another study by Dodge attempts to determine what relationship there was between personality and sales success. This study was carried on

- 1 Rados, William, How To Select Better Salesmen, New York, 1946, P. 295.
- 2 Dodge, A. F., Social Dominance of Clerical Workers, and Sales Persons as Measured by the Bernreuter Personality Inventory, Journal of Educational Psychology, 1937, 28, P. 72.

with a group of 75 salespeople from a department store. The summary of Dodge's findings were:

- (1) low positive correlation between social dominance and sales success;
- (2) this correlation was too low to be of value in differentiating the good and poor salespeople;
- (3) Item analysis of the personality inventories of 18 of the best salespeople and 15 of the poorest salespeople indicated that there were significant differences.
- (4) better salespeople tend to report themselves less moody and less subject to worry than did the poorer sales people;
- (5) The better salespeople tend to report themselves as more self-sufficient and self-confident than do the poorer salespeople;
- (6) The better salespeople tend to report themselves as more aggressive, more willing to assume responsibility, more social, less resentful of criticism, more radical or unconventional, preferring face to face discussion rather than reading or writing, more diplomatic, and more subject to changing interests. (1)

A summary chart of the item analysis which was conducted by Dodge on the Bernreuter is shown below. Column 1 indicates the number of items in the personality inventory confirming the trait listed to the left. Column 2 indicates the extent of difference with respect to the trait between the good and poor salespersons. (2)

<u>Trait</u>	<u>Column 1</u>	<u>Column 2</u>
Not moody or subject to worry	7	27%
Self-confident, self-sufficient	6	18%
Aggressive, willing to assume responsibility	3	15%
Social	5	16%
Free from Self-consciousness	4	17%
Little tendency to talk about oneself	3	16%
Not resentful of criticism	2	17%
radical or unconventional	2	15%

- 1 Dodge, A. F. What are the Personality Traits of The Successful Sales Person? Journal of Applied Psychology, 1938, 22, P. 237.
- 2 Dodge, A. F. Social Dominance of Clerical Workers and Sales Persons as Measured by the Bernreuter Personality Inventory, Journal of Educational Psychology, 1937, 28, P. 73.

Hampton reports on this study by Dodge:

"The general outcome of the study is that there is a relation between personality and sales success but that the meaning of such traits has to be established by experiment". (1)

A further study was conducted by Humm in an attempt to make up a testing battery for selecting salesmen for the Coca-Cola Bottling Company. The battery consisted of an intelligence test, a "social pattern" test, an interest inventory, and a test of temperament. One executive of the company stated that, over a four year period, he has found temperament to be the important factor which determines behavior after hiring and that with the use of the above battery it has been possible to start more nearly right than was the case before the tests were adopted. It has been found that four-fifths of all hiring failures have been due to temperament, inability to get along with people and failure to deliver the goods. (2) In making this report Humm might have unconsciously been subject to some degree of bias since his temperament scale was put to use by the company. Humm does become somewhat subdued, however, when he cautions that "temperament tests reveal little of value unless checked by other tests." It is difficult to determine just how much value to place on this type of double-talk.

The use of interest inventories has only been recently advocated and the amount of research done on them has not been particularly large. Their primary purpose is to determine whether or not an individual has the necessary amount of sales interest and whether or not his interests are in accord with the interests of successful salesmen in the field. That is the

- 1 Hampton, Peter, Personality and Success in Selling, Personnel Journal, 1944, 22, P. 112.
- 2 Humm, Doncaster, Battery of Tests Aids Bottler in Selecting Route Salesmen, Sales Management, 1944, 53, P. 94:3.

basic limitations of the interest inventories. They, unlike the tests of personality and intelligence, are not so involved in the measurement of the intangible qualities which go to make up the sales personality. It is a device which has been recognized as valuable in the selection of salesmen. Chiselli and Brown report that:

"Measuring of interests would seem to be one of the most promising types of tests for use in the selection of salesmen."

With reference to the Strong Interest Inventory it has been said that,

"Although this test was not designed to predict the productivity of salesmen, it has been found to serve this function rather well with certain groups of salesmen". (1)

So far that has been one of the main difficulties with the use of the interest inventories -- the fact that there is no quantitative degrees of interest for various sales jobs. The Strong lists two or three sales positions on its occupational interest list and the Kuder Preference Record simply measures the degree of "persuasive" interest an individual possesses. To be used effectively it would seem that the interest inventory, like the intelligence tests and tests of personality will have to be standardized for the particular company in order to measure effectively.

Study in Subjective Selection

Perhaps one of the most interesting and contributing studies to the field of sales personnel selection was one which was conducted by McMurray, Kornhauser, and Richardson for a company operating a sales force on a nationwide scale. (2) McMurray and his associates have been firm believers in the subjective

- 1 Ghiselli, E. E. and Brown, C. D., Personnel and Industrial Psychology, New York, 1948, P. 301.
- 2 McMurray, R. N., A Scientific Procedure for the Selection of Salesmen, Personnel, 1939, 15, P. 165 - 183.

study of the individual. That is, along with test result, they believed that a great deal of information pertinent to efficient selection may be obtained by considering the background of the individual, his social, domestic, and business life, by means of the interview and application blank.

MacMurray states:

"Unfortunately, of all employees, salesmen are the most difficult to select. There are several reasons for this: First and most important, is the fact that a salesman's success is determined largely by his personality make-up and his motivation (his will to work and his industry), two very difficult matters for anyone to evaluate without special aid. The applicant's intelligence, his education, and his technical knowledge (which can be measured by tests) are of secondary importance. And further to complicate matters, certain of the characteristics, e.g. appearance, and manner, which are most commonly used as a basis for judgment of sales ability, may be extremely misleading." (1)

The study was an attempt to get around the problem of personality make-up and motivation. Hiring by the company was decentralized so it was necessary to devise instruments which were simple in their operation and would require no technical training. The first instrument was the application blank. It contained 60 items which had been statistically derived to ask for the qualifications most necessary for this particular job. These items were weighed according to their relative importance in predicting success.

The next step was a test of salesmanship which consisted of the Wonderlic Personnel Test and a series of questions designed to get at a man's personality make-up. It was found that interest, as measured by the test, did not correlate with success hence it was dropped from the battery.

MacMurray, R. N., A scientific Procedure for The Selection of Salesmen, Personnel, 1939, 15, P. 169.

It was concluded that other personality traits were more important in determining sales success. The personality tests measured whether or not he had strong beliefs or opinions, behavior under various conditions, and self-rating on personality traits. It was perhaps more of the projective type of test than the usual personality test.

By means of the first and second steps it was found possible to reject 20 to 40% of the least qualified. This then left more time to devote to more careful study of the personality qualifications of the men passing the first two selection devices.

The third step consisted of the interview. Previously to this trained psychologists had spent time out in the field interviewing and working with 250 salesmen under the pretext of studying sales methods. The results of this study found that there were two types of personalities disadvantageous for sales work. One was the person who has a slight personality maladjustment such as the mild paranoid or schizoid. They may alienate prospects or be too involved in their own personal problems. The second type of person was the one who was emotionally retarded -- the one who has failed to grow up to maturity. The results of the findings out in the field were brought in and incorporated into a planned interview which took up all of the points which the psychologists had found to make for success or failure in actual selling work.

One final step which MacMurray would like to use but which he has not developed as yet because of its complications is a further interview which would consist of interviewing the members of the applicant's family and previous employers. MacMurray believes that complete background investigation of the prospective salesman considering his home, social, and business

background is one of the best ways for predicting future success.

Summary

Recent research into the use of various selection devices for selecting sales personnel is best summed up as follows:

- a. Tests used should be standardized psychological tests, carefully selected, and interpreted in relation to the requirements of the job under consideration, or they should be designed and standardized to meet specific requirements.
- b. The nature of the sales operation involved and the specific conditions which impose demands upon a salesman and affect his success must be given careful consideration. There is no "general sales ability" test that can measure ability to sell any product anywhere under any and all conditions; there is no single composite of qualities, each in specified strength, that makes a complex entity called "general sales ability", no one combination of traits that comprises "the personality of a salesman".
- c. Criteria of sales performance, whether objective measures or subjective ratings should be carefully established. An adequate evaluation of test scores requires valid criteria against which results can be checked.
- d. Psychological tests should not be used as the sole instrument for selection of salesmen. The results of tests need to be combined with findings from other aids to selection, particularly the application blank and the interview.
- e. It is necessary that procedures developed and found valid for an experimental group of salesmen be tried out and checked by use with subsequent groups of applicants before they are accepted as sound method for established use in selection. (1)

1 Flemming, Edwin G. and Cecile W., A Qualitative Approach to the Problem of Improving Selection of Salesmen by Psychological Tests, The Journal of Psychology, 1946, 21, P. 131.

CHAPTER V

Techniques of the Study

Most of the statistical procedures used throughout the study were aimed at attempting to find out what data out of the total which we had accumulated for each man was the most significant as far as predicting the future success of the salesman was concerned. As has been mentioned previously much data which might be desirable in conducting a study of this sort was not available and there were no means of obtaining it. Therefore the thoroughness of the research was limited to that extent. Every effort was made, however, to treat the data which was available as thoroughly as possible in order to determine any significant relationships.

The first step, once the total amount of data had been accumulated was to prepare frequency distributions and the resulting means and standard deviations of all of the numerical data available. This involved the scores of all of the tests and sub-tests plus the ages of the individuals.

Once the above material had been compiled the next procedure involved correlation techniques. All of the data available was correlated by various methods with the one criterion which we had measured and the criterion of success of the salesman. It was at this point that the greatest difficulty arose in the whole process of statistical treatment. For one thing, we were attempting to correlate data, which had a wide range, with the criterion, which had only three categories. This in itself, is not the most favorable condition for correlations for there are three main variables, the three ratings being correlated against a very small number of variables.

Another point was the factor of distribution; most of our tests scores, etc., had a fairly normal distribution, whereas the ratings were very negatively skewed. Therefore, it could not be expected that high correlations would result. One of the main things which were needed to make this study more valid and of greater significance was the greater differentiation of rating scores or, at least, a greater range in whatever criteria we might have been able to use.

To get along with our immediate problem, however, we needed to find some suitable correlation technique which would allow for the greatest degree of validity in our correlation. What would have perhaps fit most easily into the picture would have been something akin to the Biserial r only in this case it would of necessity be a "Triserial r " to take care of our three rating factors. The Pearson Product Moment Correlation was considered. However, it was discovered that all of the relationships were of a curvilinear nature and hence, the Pearsonian r , which assumes linearity, could not be used. If this correlation method had been used the degree of relationship would have been underestimated.

The only method which satisfied the type of data which we are working with and at the same time assume a curvilinear relationship was the correlation ratio.

The correlation ratio is a very general index of correlation particularly adapted to data in which a curved regression prevails. ---- Outside of the sphere of psychological tests or when outside variables are correlated with test scores were sometimes encounter curved trends in the scatter diagram. (1)

1 Guilford, J. P., Fundamental Statistics in Psychology and Education, New York, 1942, P. 231.

In correlating marital status, previous sales experience and education with the criterion the contingency coefficient was used. (1) Because of the short range of both sets of data and because the data was of a very discrete nature it was decided that this method would give more valid results for the particular data involved.

In order to show whether or not there was any large degree of variance among them, the mean test scores of the above average men, the average men, and the below average men were determined. Following this percentile tables were made up for all tests and subtests. (See Appendix A). From these percentile tables, and using the mean score for each of the three groups, a test profile was made up showing the mean scores for the above average group, the average group, and the below average group. The same procedure was used for the personality test scores.

One further statistical technique was involved in the study. In the case of the aptitude tests we wished to find out how significant the difference was between the mean scores of the below average men and the mean scores of the above average men. To do this involved the computation of the probable error of the difference which tells what the chances are (how many chances out of a hundred) that the difference which exists between the two variables is greater than zero. In other words it is a statistical device which tells the reliability of the difference which exists; is it a reliable difference or simply due to chance factors? (2)

1 Garrett, H. E., Statistics in Psychology and Education, New York, 1939, P. 387.

2 Ibid., P. 213 - 217.

The Tests Used in the Study

Wonderlic Personnel Test (See Appendix B)

This test was designed and created for testing adults in business and industrial situations. It is useful as a selection instrument in hiring and placing applicants and also as an indicator of future possibilities. It is a 12 minute test of mental alertness containing fifty items and is of the omnibus type. The test was standardized in a business situation on adults which makes it particularly suitable for business and industrial use. The reliability of the test has been reported by Wonderlic to be .82 to .94 based on test - retest information. Reliability determined by the split halve method proved to be .88 to .94.

The validity of the test

"was proved in actual business situations. The test has been shown to be a valid instrument in determining success on a number of different jobs." (1)

Correlations between the Personnel Test and the Otis Test are reported to be from .81 to .87. For the non-technical salesman Wonderlic reports a minimum score of 22.

Lorge attacks the fact that the test has been shown to be a valid instrument in determining success on a number of different jobs by pointing out that there is no evidence to show that this may be true. (2) Brogden also asks for a discussion of the limitations of the tests,

"There is sufficient evidence in the literature to indicate that a general intelligence test cannot be expected to show high validity in general industrial use. Limitations in the use of a general

- 1 Wonderlic, E. F., Wonderlic Personnel Test Manual, 1945.
- 2 Buros, O. K., The Third Mental Measurements Yearbook, (Review by Irving Lorge), New Brunswick, 1944, P. 348.

intelligence test should be discussed. It might help if validity were considered in relation to particular jobs or job areas ---." (1)

The Psychological Corporation General Clerical Test (See Appendix B)

This test has been designed as a general and differential test for use with all types of clerical workers. It is a test which purports to measure clerical ability but which also has been found to be an indicator of intelligence to some degree. The test has an over-all score which is a general index of clerical aptitude. It correlates quite highly with the scores of general intelligence tests, but differs from these in containing only material of significance for clerical activities. Besides the over-all score, there are three section scores which purport to measure respectively routine clerical aptitude, proficiency in mathematics, and verbal facility. The three sections of the test further divide down into three subtests each. The nine subtests involve identification of errors in a copy of original material, identification of errors in an arithmetical table, alphabetizing, arithmetic computation, arithmetic reasoning, spelling, reading, vocabulary, and grammar. The test has a separate time limit for each of the nine parts and requires a total time of about 50 minutes to administer. No information is given on the validity of the test in employment work. With the exception of part 5, the parts all have split-half reliabilities of above .75. The reliability of part 5 is only .63. (2)

1 Ibid., (A review by H. E. Brogden), P. 374.

2 Manual for the Psychological Corporation's General Clerical Test.

The California Test of Personality - Adult Series (See Appendix B)

This test

"has been designed to identify and reveal the status of certain fundamental characteristics of human nature which are highly important in determining employability and general success in personal, social, or vocational relations."

The test has no time limit and is largely self-administering. The test has a total score, two subsection scores measuring self-adjustment and social adjustment, and six sub-test under each of the two subsections which under self-adjustment purport to measure self-reliance, sense of personal worth, sense of personal freedom, feeling of belonging, withdrawal tendencies, nervous symptoms, under social adjustment traits measured are social standards, social skills, anti-social tendencies, family relations, occupation relations, and community relations. The reliability reported in the manual, determined by the split-halves method and corrected by the Spearman-Brown formula is .918 for total adjustment, .888 for self-adjustment, and .898 for social adjustment. No tangible evidence pertaining to validity was reported. Each sub-test consists of fifteen questions which are answered by a "yes" or "no". The total number of correct responses is an indicator of how well adjusted the individual is in each of the 12 categories.

CHAPTER VI

Analysis of the Data

For the sake of general information the means and standard, deviations for the group of 87 salesmen including the sub-group of 47, is presented on the following page for all of the tests administered. Perhaps of particular interest in regard to this table is the mean score of the Wonderlic Personnel Test. In the manual Wonderlic presents the minimum score for salesman as being 22 in this case the mean score is 23.37; however, in actual studies conducted by Rados using the Wonderlic Personnel Test in selecting salesmen critical scores of 15 were established for driver salesmen and routine order taking salesmen. (1) This would seem to indicate, by and large, that the group had a degree of intelligence somewhat higher than is usually considered as the minimum for this particular type of job.

The scores of the general clerical test appear to hover about the average for male veteran's as was reported from the norm table in the manual for this test.

Before going into any further analysis in an attempt to discover what significant differences there are between the successful and unsuccessful salesmen and what factors appear to be the most predictive of success in the field, one more thing should be pointed out and that is the distribution of ratings. The distribution of the ratings was far from approaching normality. Out of the 87 men in the main group 42 men received a rating of

1 Rados, William, How to Select Better Salesmen, New York, 1946, P. 291.

CHART IMean Scores and Standard Deviations for the Group and
Sub-group

<u>Attitude Tests (N-87)</u>	<u>Mean</u>	<u>SD</u>
Personnel A	23.37	6.39
General Clerical Total	125.21	28.37
Part I	32.14	12.78
Part II	31.38	9.36
Part III	58.02	17.82
<u>Personality Test (N-47)</u>		
California Test of Personality	144.02	15.02
Self-Adjustment	74.29	6.88
Self-reliance	12.46	1.69
Personal Worth	9.71	2.29
Personal Freedom	13.00	1.85
Belonging	13.86	1.19
Withdrawal Tendencies	12.73	2.79
Nervous Symptoms	13.32	1.83
Social Adjustment	69.02	9.53
Social Standards	11.16	1.78
Social Skills	11.72	2.29
Anti-social Tend.	12.25	2.04
Family Relations	13.02	1.98
Occupational Relations	9.41	2.45
Community Relations	11.68	2.72

above average, 31 men were rated as average, and 14 men were rated as below average. In the sub-group involved in the personality study 22 men were rated as above average, 17 as average, and 8 as below average. This would seem to indicate one of two things: that the tests and other selection devices had been successful in selecting a preponderance of above average or successful men and weeding out the unsuccessful men; or that the methods which the branch managers had used in rating the men was not valid and gave results which were not true measures of the salesman's worth. In this study we shall have to under the assumption that the ratings of the manager's have been valid; however, due to the peculiar distribution of the ratings one might well question their validity.

Chart II (Page 63) lists the results which have been arrived at by the correlation techniques described earlier. On the whole none of the factors which were measured appear to have any high degree of relationship with success on the job. As was pointed out in past studies, correlation of intelligence with success in sales work is quite low, (.124). Also clerical ability appears to have little relationship to success (.094).

The correlation of personality traits show little more than the aptitude tests. Freedom from withdrawal tendencies (.200) and social standards (.297) appear to have relatively higher degree of relationship to success than do any of the other traits. Freedom from withdrawal tendencies would indicate an extroverted, aggressive type of individual which may be in keeping with this type of sales position. A person with a favorable social standards score would be one who recognizes what is appropriate, dignified, proper and also in harmony with the interest of others. The high score of this latter trait which was .297 indicates that there is probably some

The first part of the report deals with the general situation of the country and the progress of the work during the year. It is followed by a detailed account of the various projects and the results achieved. The report concludes with a summary of the work done and the plans for the future.

The second part of the report contains a list of the various projects and the results achieved. It is followed by a detailed account of the various projects and the results achieved. The report concludes with a summary of the work done and the plans for the future.

The third part of the report contains a list of the various projects and the results achieved. It is followed by a detailed account of the various projects and the results achieved. The report concludes with a summary of the work done and the plans for the future.

The fourth part of the report contains a list of the various projects and the results achieved. It is followed by a detailed account of the various projects and the results achieved. The report concludes with a summary of the work done and the plans for the future.

The fifth part of the report contains a list of the various projects and the results achieved. It is followed by a detailed account of the various projects and the results achieved. The report concludes with a summary of the work done and the plans for the future.

The sixth part of the report contains a list of the various projects and the results achieved. It is followed by a detailed account of the various projects and the results achieved. The report concludes with a summary of the work done and the plans for the future.

The seventh part of the report contains a list of the various projects and the results achieved. It is followed by a detailed account of the various projects and the results achieved. The report concludes with a summary of the work done and the plans for the future.

The eighth part of the report contains a list of the various projects and the results achieved. It is followed by a detailed account of the various projects and the results achieved. The report concludes with a summary of the work done and the plans for the future.

The ninth part of the report contains a list of the various projects and the results achieved. It is followed by a detailed account of the various projects and the results achieved. The report concludes with a summary of the work done and the plans for the future.

The tenth part of the report contains a list of the various projects and the results achieved. It is followed by a detailed account of the various projects and the results achieved. The report concludes with a summary of the work done and the plans for the future.

CHART II

Coefficients of Correlation Between Salesmen's Ratings and
Test Scores, Age, Marital Status, Dependents, Education,
and Previous Sales Experience.

Attitude Tests (N-87)*

	<u>r</u>
Personnel A	.124
General Clerical Total	.094
Part I	.031
Part II	.125
Part III	.133

Personality Test (N-47)*

Calif. Test of Personality	.047
Self-Adjustment	.068
Self-reliance	.134
Personal withdrawal	.093
Personal freedom	.137
Belonging	.119
Withdrawal tendencies	.200
Nervous symptoms	(-).378
Social-Adjustment	.104
Social standards	.297
Social skills	.033
Anti-social tendencies	.109
Family Relations	.093
Occupational relations	(-).289
Community relations	.154

Background (N-87)

Age*	.145
Number of dependents*	.250
Marital Status**	.277
Previous sales experience**	.044
Education**	.178

* Arrived at by means of the correlation ratio.

** Arrived at by means of the contingency coefficient.

relationship between this and success on the job. Of particular interest was the negative correlations or freedom from nervous symptoms ($-.378$) and occupation relations ($-.289$) with job success. In these two traits, more than in any others, an individual is going to be more apt to answer the way in which he thinks the questions should be answered, thus the very undifferentiating ability of these two sub-tests.

In general one of the weaknesses of the California Test of Personality has been the fact that few items in the test cannot be "seen through". In a review and criticism of the test Spencer remarks:

It seems amazing that psychologists or business executives would expect job applicants to risk an unfavorable response to items in the adult form like the following: "Do you feel that most employers keep in mind the welfare of their workers?"; "Do you feel that many employers are unfair in their methods of making promotions?" (1)

Turning to other factors such as age, number of dependents, etc., we still find rather low correlations. Marital status correlates low ($.277$) with job success as does the number of dependents ($.250$). Furthermore there seems to be little relation ($.044$) between previous sales experience and successful sales work.

Although these correlations appear low they are nothing out of the ordinary as previous studies will readily show. In a report by Flemming and Flemming, who have been associated with the Klein Institute in New York, they readily accept the fact of low correlations between psychological tests but at the same time point out that the cause is not altogether lost.

- 1 Buross, O. K., Third Mental Measurements Yearbook - (A review by Douglas Spencer); New Brunswick, 1949, P. 55.

The number of successful efforts to devise better instruments and procedures for selecting salesmen probably has been reduced by a tendency shown by many research workers in this area to rely too exclusively upon r 's obtained on the assumption of straight line relationships between scores on selection tests and criteria of sales success. Obtaining low correlations in many instances with several different tests, they have seemed to conclude that the tests used did not measure traits that were significant for salesmen and have tended to discard them. Frequently, in reports of selection research, the statement has been made that test scores on mental ability and certain personality tests showed little or no correlation with sales performance, with the implication that measures of these traits would not therefore contribute to any effective instrument for more accurate selection of men likely to be successful salesmen. (1)

With this introduction finished they then go on to analyze the possible reasons for the low correlations found between individual test scores and sales success. Analyses of previous studies on different types of selling jobs has suggested to the Flemmings that low correlations may be due to the following facts:

- a. Not one, but many traits or qualities are necessary for sales success. The total combination of aptitudes that make a successful salesmen in terms of both ability and personality is so complex that a single trait even though significant, may show only a moderate or low correlation with success.
- b. A single lack or defect (even one seemingly small) may be a significant factor, even a basis for failure. High test scores may reveal the possession of several desirable traits with excellent inter-relationships which give high expectation for success in selling and yet, a lack of some one quality or an excess of some other trait may make for a failure.
- c. Evidence is accumulating that relationships between test scores and success in selling actually are not straight line but are curvilinear; that though some

1 Ibid., P. 139.

amount of certain traits and abilities is requisite for effectiveness as a salesman in a particular job a larger amount may be too much, an excess, that is the basis for failure or at least an element contributing significantly to failure or to mediocre success.

- d. Frequently correlations between individual test scores and success in selling have been low, and the conclusions drawn therefrom invalid, because the criteria of success used have not been determined with sufficient care ---. Some investigators have indicated that seemingly legitimate quantitative criteria, such as volume of sales, may be inaccurate; while qualitative judgements of performance, with consideration of intangibles, such as service to customers, may be more accurate and more valid criteria of achievement and satisfactoriness as a salesman. Just as there probably is no such thing as general sales ability, so there is no single standard of sales performance or success that can be applied to all types of selling operations, and no one criterion of success. (1)

All of these points which have been brought out by the Flemmings are applicable to our own study. The first two points may be quite possible due to the nature of the tests which have been selected and the amount of subjective data which was obtained concerning the individual. The tests used were ones of intelligence and clerical ability, with the test of clerical ability, by itself, having a high correlation with intelligence. In the past studies on the problem of successful salesman selection it has been pointed out that tests of intelligence were of secondary importance in the selection battery and hardly anything has been mentioned pertaining to tests of clerical ability. The test of personality which was used, was used for only a short time, and it appears from critical analysis of the test that it is not a valid personality test nor is it one which is good for use in

1 Flemming, Edwin G., and Cecile W., A Qualitative Approach to the Problem of Improving Selection of Salesmen by Psychological Tests, The Journal of Psychology, 1946, 21, P. 130.

an employment situation. (1) At the same time, it has been found that tests of personality were perhaps one of the most important forms of psychological tests used in selecting salesmen. Another fairly successful test, interest inventories, have not been used at all in the testing battery. From a subjective point of view, information about the individual and his background has been gathered and weighed in a haphazard manner. The application blank is one which is general in nature and is used for applicants for all types of jobs. It is not an application which has been made up strictly for the sales force and as a result it does not contain information which might be pertinent to selecting successful salesmen.

In general therefore, the selection methods of the company have perhaps found themselves lacking, not only in background subjective information about the individual which could be used in predicting success, but also in the types of traits which should be measured by psychological tests.

As to the third point brought out by the Flemmings there is little doubt but that the relationships between tests scores and the ratings are curvilinear. All of which indicates that there might be a high point on the scale above which men are rejected and a low point below which men are rejected. In this study the degree of curvilinearity was not great as can be observed by noting the means of the above average, average, and below average ratings on Chart III. The means of these ratings are the same as the means of the Y arrays and thus form the bases for the regression line.

With respect to the fourth point, several times in our discussion, we have brought up the problem of the criteria. The author is almost com-

1 Buros, O. K., The Third Mental Measurement Yearbook, (Reviewed by Douglas Spencer and L. F. Shaffer), Rutgers University Press, New Brunswick, 1949, P. 55 - 56.

pletely convinced that in this case the criteria has been a contributing factor to the low relationships which have been observed. In the first place the problem of rating an individual is in most cases not an easy task and may be subject to such invalidating factors as "halo effect". Not only that but how do we know that the criterion upon which these ratings were based is an accurate indicator of sales success? The mere fact that an individual has turned in a large unit of sales over a short period of time may not be an indication that he is a good salesman. Perhaps there exists a better salesman who has been turning in a smaller amount of sales but at the same time is gradually building up his business in the face of stiff competition from other milk companies.

Furthermore, as has been mentioned previously, the very nature of the distribution of the ratings appears to indicate that they are invalid. From inspection of the distribution of these ratings and the distribution of the test scores it would be possible to tell that there will be a low degree of relationship between the two; simply because of the normal distribution of the test scores and the negatively skewed distribution of the ratings.

Let us now consider Chart III (Page 69). This chart shows the means of the scores for each test obtained by the above average men, the average men, and the below average men. Perhaps the most interesting thing is the relatively small degree of variance among them. In other words none of the tests seemed to differentiate to any great extent between the three ratings. An attempt was made to discover just how significant these differences were between the below average salesmen and the above average salesman by means of the critical ratio. This was only attempted with the aptitude tests which covered the whole group of 87 men. In the case of the Personnel A

CHART III

Mean Scores of Above Average, Average, and Below Average,
Salesmen on the Aptitude and Personality Tests Used in
the Selection Battery.*

<u>Test</u>	<u>Mean Scores</u>		
	<u>BA</u>	<u>A</u>	<u>AA</u>
Personnel A	21.79	22.89	23.92
General Clerical Test (Total)	131.16	122.94	125.00
Part I	33.00	32.19	31.93
Part II	29.29	32.74	31.29
Part III	54.36	55.00	58.64
Calif. Test of Personality (Tot.)	145.13	143.18	144.28
Self-adjustment	75.00	75.32	74.30
Self-reliance	12.86	12.22	12.53
Personal worth	10.00	9.88	9.50
Personal freedom	13.29	13.35	12.95
Belonging	13.71	14.06	13.75
Withdrawal tendencies	12.86	13.24	12.25
Nervous symptoms	14.57	13.59	12.65
Social-adjustment	64.87	67.64	69.64
Social standards	12.29	10.71	11.15
Social skills	11.71	11.82	11.65
Anti-social tendencies	12.71	12.06	12.30
Family relations	13.14	12.77	13.15
Occupational relations	11.00	9.24	9.00
Community relations	12.00	11.18	12.05

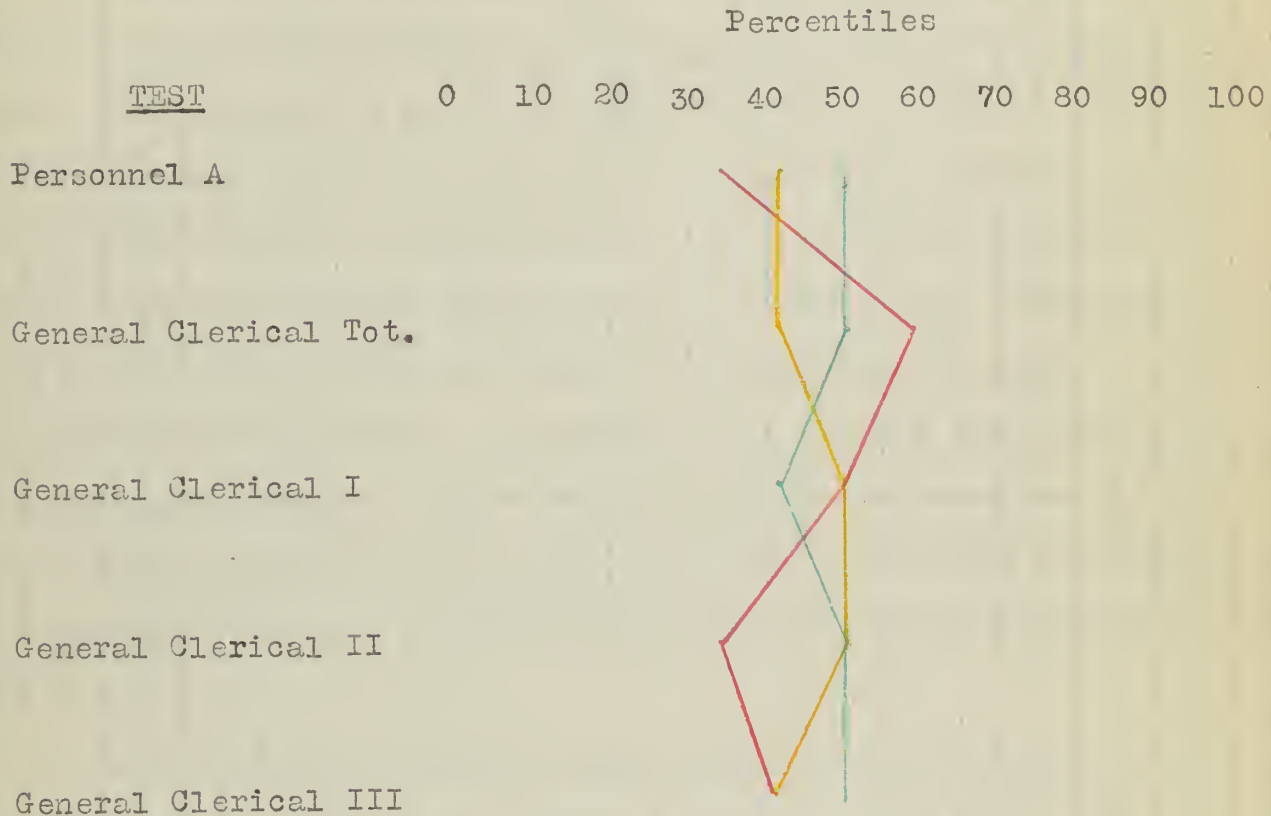
* Personnel A and General Clerical means based on 87 cases;
California Test of Personality means based on 47 cases.

the critical ratio was 1.29 which indicates that there are 81 chances out of a hundred that the difference is actually greater than zero, or that a difference does exist. On the General Clerical Total the critical ratio was .84 which indicates that there are 72 chances out of a hundred that the difference between the scores was greater than zero. On Part I of the General Clerical the critical ratio was .325, indicating 58 chances out of one hundred that a difference actually existed. On Part II the critical ratio was 1.159 indicating 78 chances out of a hundred. And on Part III the critical ratio was .91 indicating 73 chances out of a hundred. In general these results although indicating that some difference in the scores actually exists do not indicate significant superiority on the above average group's part. A critical ratio of 3 is usually taken as evidence of significant superiority.

One of the most significant things which has appeared in this study, however, comes from Chart III. Percentile tables were made up based on the group of 87 men and from these tables the means of the three rating groups were plotted on a profile sheet. The results were rather interesting, as can be seen from Profile I (Page 71). In the first set of graphs only the results of the aptitude tests were plotted. In the case of the AA men and the A men the scores appeared to hover between the 40 and 50 percentile. However, when the profile for the BA men was plotted it was found that they tended to vary considerably in the various tests. Their test results showed a percentile range of from 37, on the lowest test to 58 on the highest. The reason for this is difficult to ascertain and it would be purely speculation in any event. An erratic profile of this sort

PROFILE I

A Profile Showing the Percentile Rankings of the Mean Scores in the Aptitude Tests of the Above Average, Average, and Below Average Groups. Based on a Norm Table Constructed from 87 Cases.



Key:

- Above average group
- Average group
- Below average group

with tests which are very similar with regard to what they are measuring might well lead one to believe that the cause lies in the personality make-up of the below average men.

The same procedure was used in the sub-group of men which took the personality test from Profile II on Page 73, it can be seen that there was also close similarity in the personality of the AA and A salesmen with deviations appearing in certain traits on the BA men. The most outstanding variance in the traits of the BA men was in the areas of Social Adjustment, Freedom from Nervous Symptoms, Social standards, and occupational relations. In both occupational relations and freedom from nervous symptoms the BA men scored higher than the other two ratings; at the same time these two traits correlated negatively with job success. All of which leads to a somewhat shakey conclusion that the BA men might tend to answer the questions on the personality test, not truthfully, but rather the way they think they should be answered.

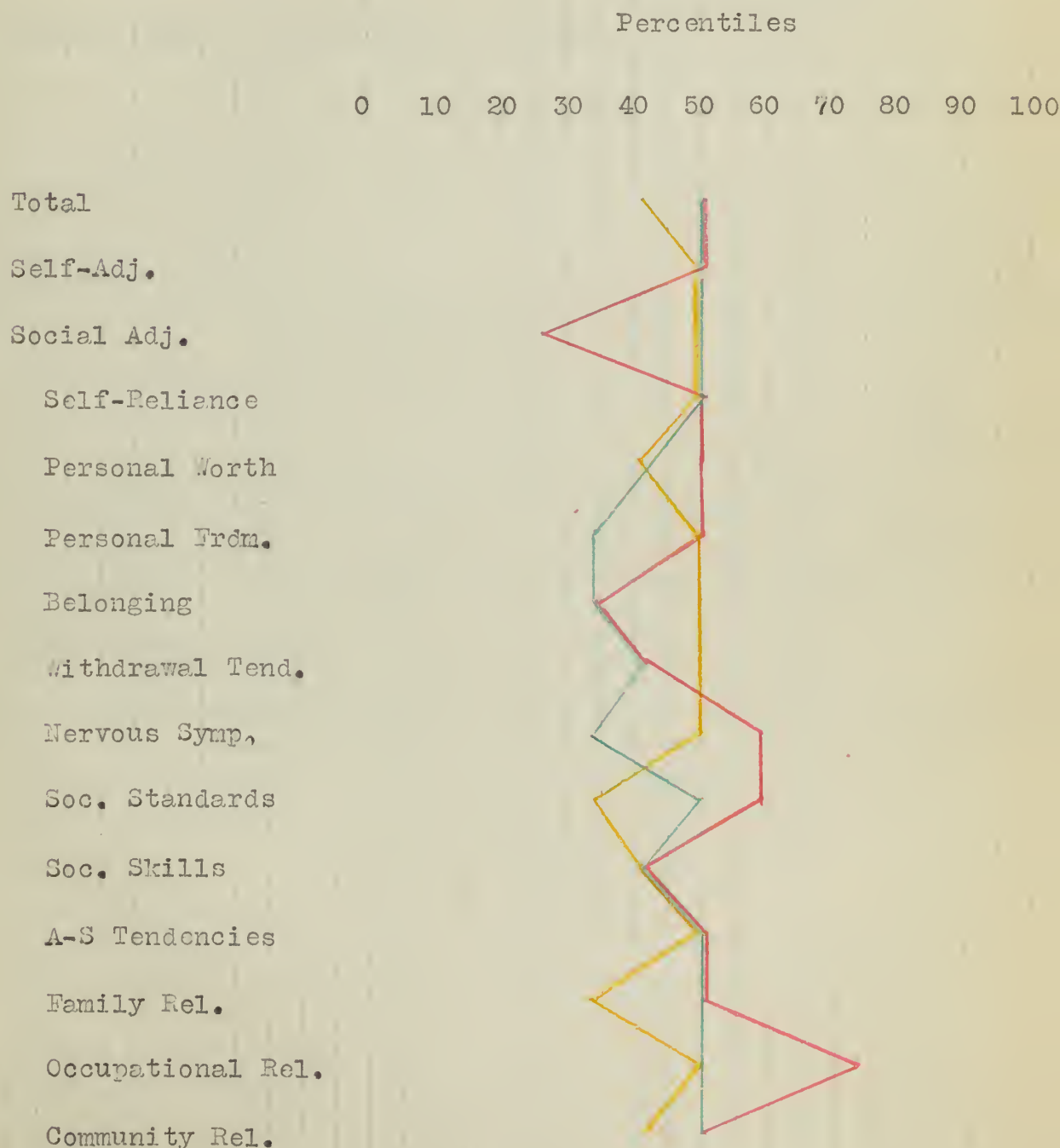
If we were to interpret this test information which is available for the three types of ratings in terms of a pattern it would appear that insofar as the tests of clerical ability and intelligence are concerned there is a significant difference in the type of pattern which differentiates the successful from the unsuccessful salesman. In the case of the personality tests, due to its nature and unestablished validity, it is dangerous and difficult to make any sort of statement at all.

Flemming tends to stress the interpretation of tests with respect to the total pattern rather than an analysis of individual tests. They believe that the characteristic traits revealed by a pattern is more significant than either a high or low score on a single test.⁽¹⁾ In view of this

1 Ibid., P. 135.

PROFILE II

A Profile Showing the Percentile Rankings of the Mean Scores in the Personality Test of the Above Average, Average, and Below Average Groups. Based on a Norm Table Constructed from 87 Cases.

Key:

- Above average group
- Average Group
- Below average group

it may be possible that, by looking at the aptitude battery used in this study in term of a general pattern, we might have a method of selecting successful and unsuccessful salesman. However, this study is nowhere near complete enough to substantiate this theory.

CHAPTER VII

Conclusions and Suggestions

In reviewing this study certain conclusions concerning the techniques used by the company for selecting salesmen are apparent.

(1) It would appear that the testing program of the company used by itself would not constitute a valid method of selecting salesmen. Rather tests should be used in conjunction with other selection techniques for utmost validity.

(2) Added emphasis, is of late, being placed on the value of subjective, as well as objective, evaluation of the applicant and his background.

(3) Tests of interest and personality have proven themselves to be of value in aiding salesman selection. Further research might be done in this area.

(4) Adequate criteria of success is a necessary prerequisite to conducting valid research on the efficiency of the selection program and in order to follow-up the progress a salesman is making.

(5) More adequate training and supervision of the salesman is needed for the full development of successful sales personnel.

From these conclusions it is obvious that certain suggestions can be made in order to improve upon the selection techniques already used by the company. In offering these suggestions the author realizes they are expensive and time-consuming, but it is felt that in order to obtain the utmost validity in a selection system they should be incorporated with the present techniques. Eventually they will pay for themselves many times over.

In this study the relationship between test scores and the success or failure of the salesman has been shown to be small but nevertheless there is some relationship which would warrant the continued use of the tests as an aid to the other selection techniques. As will be discussed later, some possible revision might be made in the test battery. The fact that the correlations of test scores and ratings of success were low does not, in itself, suggest that the tests should be literally tossed out the window. As was pointed out previously by the Flemmings there are numerous factors which in themselves might well make for low correlations.

In many jobs it is necessary to determine the degree of basic ability which an individual has and then to relate this ability to the requirements of the job. This can be accomplished more easily and objectively by the use of aptitude tests. Granted that the method may not be 100% valid in itself, it will suffice for lack of something better. In this particular sales job where the individual is virtually running his own business certain fundamental abilities such as elementary mathematics, and a fair degree of general intelligence, plus clerical aptitude have from a job analysis aspect, been considered necessary. If for no other reason than the fact that these tests do weed out those individuals who might fail to possess these basic abilities their use as a selection aid should be continued.

One of the basic problems which has existed in this study and which is present in any attempt to evaluate a salesman's ability is the question of what criteria is to be taken as indicative of sales success. As we have seen, the mere fact that a salesman may make a lot of sales or

that his sales receipts are high does not necessarily indicate that he is a good salesman. Thus, one of the most important things which should be decided upon is this matter of criteria. Much attention should be paid to the establishment of the criteria, for criteria which are invalid are worse than no criteria at all. In this study just completed, the lack of adequate criteria and the dubious nature of the criterion which was available provided the major problem. Due to these two questionable factors, therefore, there is some doubt as to the total validity of the study. Thus, in attempting to evaluate the efficiency of salesmen the need for some basic factors by means of which we can compare salesmen is of prime importance.

It would appear that the best method for determining the criteria of success on the job would be by means of a joint conference of members of the sales and personnel departments which would include supervisors and branch managers. At these meetings various factors might be considered and decided upon with regard to adequate criteria. The different points of view offered up by people who have differing aspects of the job would be very valuable. Prior to a conference of this type it would be advisable to make a thorough study of the job which would result in a complete job analysis. The need for accurate and specific facts about the job is of considerable importance in deciding upon adequate criteria.

In considering the possible criteria there are numerous factors which might go to make a successful salesman over that the amount of sales. Such things as the amount of good will which he builds up for the company, increases in sales, and his attitude and interest in sales work are only a few examples of possible criteria, other than sales figures, themselves, which

might indicate a potentially successful salesman.

Once the job has been analyzed and various criteria have been determined, the problem then arises of how to measure these factors which have been decided upon as measures of success in selling. Since most of the factors, other than sales receipts, are of a subjective, intangible, nature, the basic instrument which we have at hand is the rating sheet. The company at the present time is using a type of rating sheet in their follow-up work on new salesmen. Basically the sheet is not too good. For one thing it is too general; for another, the rater has no alternative other than answering "yes" or "no". There is no graduated rating scale and, although there is room for comment, the rater has seldom any. The follow-up sheet is not specific enough and for this reason, along with the type of response - rating which the rater has to make, it seems to be inadequate.

It is not the intent of the writer to go into an extensive discussion of the rating methods. However, brief mention might be made of the type of rating sheet which might be used. For one thing certain definite traits which we want to measure should be decided upon. These traits should then be defined in a clear concise manner which will aid the rater in measuring what is wanted. Allowance should be made for the fact that individuals may possess these traits in varying degrees, thus ratings for each trait should have at least five graduated degrees measuring the quality or quantity of the trait. It may be found convenient and helpful in future analysis to divide the rating sheet up into sections. For example, one section may cover the subject's ability as a salesman; another section might have to do strictly with his personality; another might concern his fitness for the

job; and a final section might have to do with routine requirements of the job such as keeping records or filling out orders.

The making of a rating scale which will be valid is something which takes time and much analysis. A great deal of research should be done before the first tentative rating sheet is ever made. The only way that this can be done and done correctly is by joint conferences of those most concerned with the job and by extensive research into the back ground and personal traits of the successful salesman.

When the rating scale is being constructed careful attention should also be paid to the training of the future raters. They should be indoctrinated into the procedure of rating and they should be made familiar with what the company is looking for. Each of the qualities and factors which are to be rated should be talked over with the raters to make sure that they have a clear understanding of the characteristics which they are to rate. A company may have the best rating scale possible, but if it is in the hands of poorly trained raters, who know little about what they are supposed to do or what the purpose of the rating scale is, then it is practically worthless.

With the establishment of both subjective and objective criteria, in the form of ratings and sales receipts respectively, a great deal more can be done than has been accomplished in this study. Not only will the company have more accurate information pertaining to the progress of the salesmen but it will also have much more valid criteria with which to conduct further research into the problem of successful salesman selection. This in turn may lead to new and better selection techniques. Accurate evaluation of the men who have been selected by its techniques is of prime

importance in testing the effectiveness of any selection program.

Another suggestion which we might put forth is that an application blank be made up for the use of salesman applicants only. The application blank is capable of providing a great deal of valuable basic information about the individual, and in the case of a job which is as specific as that of a route salesman, the blank should be tailor made to fit the job. Here again research will be required. From past experience it should be determined what facts about the worker are most predictive of future success of the job and these facts should be asked for in the application blank. The information on the blank should be weighed according to the degree with which it correlates with future success on the job. This will not only give the first quantitative evaluation of the individuals potential success but it will also provide a rapid method for determining whether or not the individual meets the basic minimum requirements.

A definite patterned interview with an interviewer's check list and rating form would also be of value. Here again, the same process would be used as in the case of the application blank, but more tangible and more detailed information should be acquired.

Concerning the tests used there might be room for possible improvement of the battery. The Wonderlic Personnel tests appear to be satisfactory, as does the General Clerical test, for measuring the basic aptitudes required for the job. The realm of personality testing might be investigated to a greater extent. Judging from past research a test of personality is one of the basic requirements in a battery for selecting salesmen. Tests of personality are one of the main instruments which we have for measuring those intangible traits which make up the successful salesman on a specific sales

job, and to that extent they are valuable. If, in this study, the company had continued using the California Test of Personality it is possible that more significant data might have been forthcoming from the study of the test. As it was, with only a small sampling of 47 cases, there was noted a deviation in some personality traits on the part of the below average men from those of the average and above average salesmen (See Profile II).

Kirkpatrick (1) has suggested that the projective type of personality test might be the most valuable of all aids in selecting salesmen but as yet research with this ^{type of} instrument has only just begun. Projective techniques for determining personality characteristics have yet to go through extensive refinement in methods of administration, interpretation, and scoring, before they can be adapted for general industrial use. For a company who has the trained personnel, along with the time and money, this type of project might well pay large dividends in the long run.

Research with the orthodox type of personality test would be helpful in the case of this company. The aim of the research program would be directed toward analyzing the responses of the successful and unsuccessful salesmen and constructing a personality profile of the two types. Further research might lead to an item analysis of the test and the construction of a tailor made test for this particular company based entirely on those items the responses to which showed the greatest degree of differentiation between the successful salesman and the unsuccessful one.

One factor which has been overlooked completely so far and which is of major importance in any sales organization is that of training. The

1 Kirkpatrick, F. H., Selection of Salesmen, Personnel Journal, 1944, 22, P. 350.

The company has organized no training program as such. The new salesmen receive their training when they serve as spare drivers but it is simply a case of individual training through experience with route foremen. The importance of training has been commented on by Stokes:

Training may be a powerful factor in the job environment. Training in a sales organization is the art of helping a salesman learn, that is, helping him to change his behavior in such a way that he will become more successful on the job.

In selecting a salesman for an office where there is no efficient training, we are selecting a man who will probably succeed because of qualifications he has prior to selection. But in selecting a salesman for an office where there is an efficient training program, we are selecting a man who will probably succeed not only because of his present qualifications but because of the training he will receive. In other words, we select men for training in a particular job environment. (1)

Stokes goes on further to say that,

"I am convinced that in some sales organizations, selection research will be sterile until other management difficulties - especially training difficulties - have been taken care of". It would appear that Stokes has hit the nail squarely on the head with regard to selection without training programs. It is possible to select a man, who due to previous experience and know how, will make a good salesman, despite the fact that he may have low basic abilities. On the other hand, it is also possible to select an individual who may have much higher abilities and aptitudes, but who, through the lack of an efficient training program, was never able to

1 Stokes, T. M., Selection Research in a Sales Organization, Journal of Applied Psychology, 1941, 25, P. 45.

learn how to use these abilities to their best advantage. The need for a training program was well illustrated when one of the salesmen for this company inquired, "What should we tell a customer when they say that they've stopped buying our eggs because this other company sells larger eggs for the same price?" The salesman had never been made familiar enough with the nature of his product to that it is not the size of the egg which is important but rather the weight of the egg.

It is hardly necessary that all of these suggestions which just have been mentioned be introduced into the company at once; on the contrary, any changes should be brought about gradually with careful study being given to each step. In closing this study, the author would like to please place final emphasis on the factor of continual research into this problem of selecting and training successful route salesmen. Research is the key to continual improvement in the selection program and it is the basis for all of the suggestions which we have made previously. This research should be continued along broad areas:

- (1) constantly improving selection techniques by studying their efficiency in selection,

- (2) studying the characteristics and traits of the successful salesmen so that a basic form of criteria will be available against which to evaluate new applicants.

- (3) planned training programs for personnel engaged in supervising and training new salesmen, and

- (4) planned training programs for new salesmen.

Appendix A

NORM TABLE

Aptitude Tests Based on 87 Cases

<u>SS</u>	<u>%</u>	<u>Pers. A</u>	<u>Gen. Cler. Tot.</u>	<u>Gen. Cler. 1</u>	<u>Gen. Cler. 2</u>	<u>Gen. Cler. 3</u>
72	99	37	188	60	52	97
70	98	36	182	58	50	94
68	96	35	176	55	48	90
66	95	34	171	53	46	87
64	92	32	165	50	44	83
62	88	31	159	48	43	79
60	84	30	154	45	41	76
58	79	28	148	42	39	72
56	73	27	142	40	37	69
54	66	26	137	37	35	65
52	58	25	131	35	33	62
50	50	23	125	32	31	58
48	42	22	120	30	30	54
46	34	21	114	27	28	51
44	27	20	108	24	26	47
42	21	19	103	22	24	44
40	16	17	97	19	22	40
38	12	16	91	17	20	37
36	8	15	86	14	18	33
34	5	14	80	12	16	30
32	4	12	74	9	15	26
30	2	11	69	7	13	22
28	1	10	63	4	11	19

Norm Table

California Test of Personality Based on 47 Cases

<u>SS</u>	<u>%</u>	<u>Tot. Adj.</u>	<u>Sf. Adj.</u>	<u>A</u>	<u>B</u>	<u>C</u>	<u>D</u>	<u>E</u>	<u>F</u>	<u>Soc. Adj.</u>	<u>A</u>	<u>B</u>	<u>C</u>	<u>D</u>	<u>E</u>	<u>F</u>
72	99	177	89		15					90					15	
70	98	174	88							88	15					
68	96	171	87		14					86					14	
66	95	168	85							84						
64	92	165	84		13					82	14	15			13	15
62	88	162	83	15						80			15			
60	84	159	81			15				79	13	14	14	15	12	14
58	79	156	80		12		15	15	15	77						
56	73	153	78	14						75		15		14	11	15
54	66	150	77		11	14		14		73			13		10	
52	58	147	76	13					14	71	12	12	12	13	9	12
50	50	144	74	12	10	13	14	13	13	69	11	11	11			11
48	42	141	73		9			12	12	67						
46	34	138	72		8	12	13			65	10	10	11	12	8	10
44	27	135	70	11				11	12	63				11	7	
42	21	132	69		7	11		10	11	61	9	9	10			9
40	16	129	67							59						8
38	12	126	66	10	6	10	12			58			9	10	6	
36	8	123	65					9	10	56	8	8			5	7
34	5	120	63	9						54				9		
32	4	117	62							52						
30	2	114	60		5	9		8		50	7	7	8			6
28	1	111	59	8			11		9	48					4	

Appendix B

WONDERLIC

PERSONNEL TEST

FORM A

NAME.....Date.....
(Please Print)

READ THIS PAGE CAREFULLY. DO EXACTLY AS YOU ARE TOLD.
DO NOT TURN OVER THIS PAGE UNTIL YOU ARE
INSTRUCTED TO DO SO.

This is a test of problem solving ability. It contains various types of questions. Below is a sample question correctly filled in:

REAP is the opposite of

1 obtain, 2 cheer, 3 continue, 4 exist, 5 sow [5]

The correct answer is "sow." (It is helpful to underline the correct word.) The correct word is numbered 5. Then write the figure 5 in the brackets at the end of the line.

Answer the next sample question yourself.

Gasoline sells for 23 cents per gallon. What will 4 gallons cost?..... [____]

The correct answer is 92¢. There is nothing to underline so just place "92¢" in the brackets.

Here is another example:

MINER MINOR—Do these words have

1 similar meaning, 2 contradictory, 3 mean neither same nor opposite?..... [____]

The correct answer is "mean neither same nor opposite" which is number 3 so all you have to do is place a figure "3" in the brackets at the end of the line.

When the answer to a question is a letter or a number, put the letter or number in the brackets. All letters should be printed.

This test contains 50 questions. It is unlikely that you will finish all of them, but do your best. After the examiner tells you to begin, you will be given exactly 12 minutes to work as many as you can. Do not go so fast that you make mistakes since you must try to get as many right as possible. The questions become increasingly difficult, so do not skip about. Do not spend too much time on any one problem. The examiner will not answer any questions after the test begins.

Now, lay down your pencil and wait for the examiner to tell you to begin!

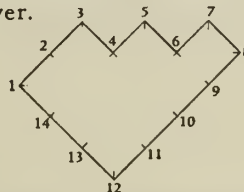
Do not turn the page until you are told to do so.

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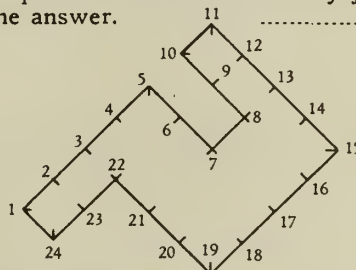
1. The last month of the year is
1 January, 2 March, 3 July, 4 December, 5 October []
 2. CAPTURE is the opposite of
1 place, 2 release, 3 risk, 4 venture, 5 degrade []
 3. Most of the items below resemble each other. Which one is least like the others?
1 January, 2 August, 3 Wednesday, 4 October, 5 December..... []
 4. Answer by printing YES or No—Does R.S.V.P. mean “reply not necessary”? []
 5. In the following set of words, which word is different from the others?
1 troop, 2 league, 3 participate, 4 pack, 5 gang []
 6. USUAL is the opposite of
1 rare, 2 habitual, 3 regular, 4 stanch, 5 always []
 7. Which figure can be made from these two parts? []
-
8. Look at the row of numbers below. What number should come next?
8 4 2 1 $\frac{1}{2}$ $\frac{1}{4}$? []
 9. CLIENT CUSTOMER—Do these words have
1 similar meanings, 2 contradictory, 3 mean neither same nor opposite? []
 10. Which word below is related to 'smell as chew is to teeth?
1 sweet, 2 stink, 3 odor, 4 nose, 5 clean []
 11. AUTUMN is the opposite of
1 vacation, 2 summer, 3 spring, 4 winter, 5 fall..... []
 12. A train travels 300 feet in $\frac{1}{2}$ second. At this same speed, how many feet will it travel in 10 seconds? []
 13. Assume the first 2 statements are true. Is the final one:
1 true, 2 false, 3 not certain?
These boys are normal children. All normal children are active.
These boys are active []
 14. REMOTE is the opposite of
1 secluded, 2 near, 3 far, 4 hasty, 5 exact []
 15. Lemons sell at 3 for 10 cents. How much will $1\frac{1}{2}$ dozens cost?..... []
 16. How many of the five items listed below are exact duplicates of each other? []
- | | |
|----------|----------|
| 84721 | 84721 |
| 9210651 | 9210561 |
| 14201201 | 14210210 |
| 96101101 | 96101161 |
| 88884444 | 88884444 |
17. Suppose you arranged the following words so that they made a true statement. Then print the last letter of the last word as the answer to this problem.
always A verb sentence a has []
 18. A boy is 5 years old and his sister is twice as old. When the boy is 8 years old, what will be the age of his sister? []
 19. IT'S ITS—Do these words have
1 similar meanings, 2 contradictory, 3 mean neither same nor opposite? []
 20. Assume that the first 2 statements are true. Is the final statement:
1 true, 2 false, 3 not certain?
John is the same age as Sally. Sally is younger than Bill. John is younger than Bill. []
 21. A dealer bought some cars for \$4000. He sold them for \$5000, making \$50 on each car. How many cars were involved? []
 22. Suppose you arrange the following words so that they make a complete sentence. If it is a true statement, put a (T) in the brackets; if false, put an (F) there.
eggs lay All chickens []
 23. Two of the following proverbs have the same meaning. Which ones are they?..... []
 1. Many a good cow hath a bad calf.
 2. Like father, like son.
 3. A miss is as good as a mile.
 4. A man is known by the company he keeps.
 5. They are seeds out of the same bowl.
 24. A watch lost 1 minute 18 seconds in 39 days. How many seconds did it lose per day?.... []
 25. CANVASS CANVAS—Do these words have
1 similar meaning, 2 contradictory, 3 mean neither same nor opposite? []
 26. Assume the first 2 statements are true. Is the final one: 1 true, 2 false, 3 not certain?
All Quakers are pacifists. Some of the people in this room are Quakers. Some of the people in this room are pacifists []
 27. In 30 days a boy saved \$1.00. What was his average daily saving?..... []
 28. INGENIOUS INGENUOUS—Do these words have
1 similar meanings, 2 contradictory, 3 mean neither same nor opposite? []
 29. Two men caught 36 fish; X caught 5 times as many as Y. How many fish did Y catch?.... []

30. A rectangular bin, completely filled, holds 800 cubic feet of grain. If the bin is 8 feet wide and 10 feet long, how deep is it? []
31. One number in the following series does not fit in with the pattern set by the others. What should that number be? $\frac{1}{2}$ $\frac{1}{4}$ $\frac{1}{6}$ $\frac{1}{8}$ $\frac{1}{10}$ $\frac{1}{12}$ []
32. Answer this question by printing YES or NO. Does A.D. mean "In the year of our Lord"? []
33. CREDITABLE CREDULOUS—Do these words have
1 similar meaning, 2 contradictory, 3 mean neither same nor opposite? []
34. A skirt requires $2\frac{1}{4}$ yards of material. How many can be cut from 45 yards? []
35. A clock was exactly on time at noon on Monday. At 2 P.M. on Wednesday, it was 25 seconds slow. At that same rate, how much did it lose in $\frac{1}{2}$ hour? []
36. Our baseball team lost 9 games this season. This was $\frac{3}{8}$ of all they played. How many games did they play this season? []
37. What is the next number in this series? 1 .5 .25 .125 ? []
38. This geometric figure can be divided by a straight line into two parts which will fit together in a certain way to make a perfect square. Draw such a line by joining two of the numbers. Then write the numbers as the answer. []

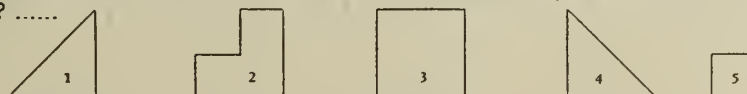


39. Are the meanings of the following sentences 1 similar, 2 contradictory, 3 neither similar nor contradictory? A new broom sweeps clean. Old shoes are easiest. []
40. How many of the five items listed below are exact duplicates of each other? []
- | | |
|------------------|------------------|
| Rexford, J. D. | Rockford, J. D. |
| Singleton, M. O. | Simbleten, M. O. |
| Richards, W. E. | Richard, W. E. |
| Siegel, A. B. | Seigel, A. B. |
| Wood, A. O. | Wood, A. O. |
41. Two of the following proverbs have similar meanings. Which ones are they? []
1. You cannot make a silk purse out of a sow's ear.
 2. He that steals an egg will steal an ox.
 3. A rolling stone gathers no moss.
 4. You cannot damage a wrecked ship.
 5. It is the impossible that happens.

42. This geometric figure can be divided by a straight line into two parts which will fit together in a certain way to make a perfect square. Draw such a line by joining two of the numbers. Then write these numbers as the answer. []



43. Which number in the following group of numbers represents the smallest amount?
10 1 .999 .33 11 []
44. Are the meanings of the following sentences:
1 similar, 2 contradictory, 3 neither similar nor contradictory?
No honest man ever repented for his honesty. Honesty is praised and starves. []
45. For \$1.80 a grocer buys a case of oranges which contains 12 dozen. He knows that two dozen will spoil before he sells them. At what price per dozen must he sell the good ones to gain $\frac{1}{3}$ of the whole cost? []
46. In the following set of words, which word is different from the others?
1 colony, 2 companion, 3 covey, 4 crew, 5 constellation []
47. Assume that the first 2 statements are true. Is the final one: 1 true, 2 false, 3 not certain: Great men are ridiculed. I am ridiculed. I am a great man. []
48. Three men form a partnership and agree to divide the profits equally. X invests \$4500, Y invests \$3500 and Z invests \$2000. If the profits are \$1500, how much less does X receive than if the profits were divided in proportion to the amount invested? []
49. Four of the following 5 parts can be fitted together in such a way as to make a triangle. Which 4 are they? []



50. In printing an article of 30,000 words, a printer decides to use two sizes of type. Using the larger type, a printed page contains 1200 words. Using the smaller type, a page contains 1500 words. The article is allotted 22 pages in a magazine. How many pages must be in the smaller type? []

PSYCHOLOGICAL CORPORATION

GENERAL CLERICAL TEST

Name_____ Age_____ Sex_____ Date_____

Company_____ Position_____

Grade Completed_____ Technical Training_____

This form consists of nine parts. Each part has a time limit. You are not expected to answer all the questions in any part in the time allowed. Follow the directions carefully. Work quickly and accurately.

DO NOT OPEN THIS BOOKLET UNTIL YOU ARE TOLD TO DO SO.

DO NOT WRITE BELOW THIS LINE

	Score	Rating
Part I		
Part II		
Subtotal		
Part III		
Part IV		
Part V		
Subtotal		

	Score	Rating
Part VI		
Part VII		
Part VIII		
Part IX		
Subtotal		
TOTAL		

PART I

Instructions: Compare each line of the COPY at the bottom of the page with the corresponding line of the ORIGINAL at the top. Each *word* or *abbreviation* or *digit* in the copy which is not exactly the same as in the original is ONE error. In each line, mark every word or abbreviation or figure that is wrong. Then count the errors you have marked in the line and enter the total number in the column at the right. The first line has been done correctly to show you just how to mark and where to enter the total number of errors in the line. Work quickly and accurately.

ORIGINAL

<i>Name</i>	<i>Address</i>	<i>Amount</i>
Dr. Jane Frazier	Madison, Ind.	\$7385.96
Mr. Michael Crane	Atlanta, Ga.	1435.64
Dr. Frank Thompson	Troy, N. Y.	2537.96
Miss Mary James	Washington, Conn.	4994.73
Mrs. Sidney Mayo	Guilford, Maine	9734.52
Prof. Hammond Taylor	Ann Arbor, Mich.	1320.49
Mr. Francis Toddy	Chicopee, Mass.	2525.27
Mrs. Sadie Miller	Denver, Colo.	8612.50
Dr. Lysle Adams	Springfield, Ohio	5323.47
Dean Penfield Revercomb	Hanover, N. H.	4096.54
Prof. Guido Nervini	Daytona, Fla.	2651.92
Mr. Joshua Schutte	Ogden, Utah	3074.91
Mr. Laurence Rosenstein	Sharon, Pa.	1834.86
Miss Margery Downing	Dover, N. J.	6223.48
Prof. Russell Mueller	Pulaski, Va.	1473.32
Mr. Bradford Gilchrist	Secaucus, N. J.	5294.30
Mrs. Theresa Worchel	Bicknel, Ind.	3304.73
Prof. Walter Flowerman	Munising, Mich.	1052.51
Dr. Charles Witmer	Ridgway, Pa.	9652.78
Mr. Clarence Osborn	Johnston, R. I.	2052.89

COPY

<i>Name</i>	<i>Address</i>	<i>Amount</i>	<i>Number of Errors</i>
Miss Jane Frazier	Madison, Ind.	\$7385.96	<u>5</u>
Dr. Michael Crane	Atlanta, Ga.	1434.54	_____
Dr. Frank Thomson	Troy, N. J.	2538.96	_____
Mrs. Marie Jones	Washington, Conn.	4884.73	_____
Mrs. Sydney Mayo	Guilford, Maine	9734.52	_____
Prof. Hammond Tayler	Ann Arbor, Mich.	1329.49	_____
Mr. Frances Toddy	Chicopee, Mass.	2525.27	_____
Mrs. Sady Muller	Denver, Col.	8612.50	_____
Dr. Lysle Adams	Springfield, Mass.	5323.47	_____
Dean Penfield Rivercomb	Hannover, N. H.	4096.53	_____
Prof. Guido Nervini	Daytona, Fla.	2651.92	_____
Mrs. Joshua Schute	Ogden, Wash.	3074.91	_____
Dr. Laurance Rosenstein	Sharon, Pa.	1843.86	_____
Miss Margary Downing	Dover, N. J.	6232.48	_____
Prof. Russell Mueller	Pulaski, Va.	1473.32	_____
Dr. Bradford Gilcrist	Secacus, N. J.	5924.30	_____
Mrs. Therese Worchel	Bucknel, Ind.	3304.73	_____
Prof. Walter Flowerman	Munsing, Mich.	1052.51	_____
Dr. Charles Witmer	Ridgeway, Pa.	9652.78	_____
Mr. Clarence Osborn	Johnstown, R. I.	2052.89	_____

STOP HERE. DO NOT TURN THIS PAGE UNTIL YOU ARE TOLD TO DO SO.

PART II

Instructions: After each name, write the number of the drawer in which that record should be filed. Work quickly and accurately. The first two are marked correctly.

1 Aa - Al	5 Bj - Br	9 Cp - Cz	13 Fa - Fr	17 Ha - Hz	21 Kp - Kz	25 Mj - Mo	29 Pa - Pr	33 Sa - Si	37 Tj - Tz
2 Am - Au	6 Bs - Bz	10 Da - Dz	14 Fs - Fz	18 Ia - Iz	22 La - Le	26 Mp - Mz	30 Ps - Pz	34 Sj - St	38 U - V
3 Av - Az	7 Ca - Ch	11 Ea - Er	15 Ga - Go	19 Ja - Jz	23 Lf - Lz	27 Na - Nz	31 Qa - Qz	35 Su - Sz	39 Wa - Wz
4 Ba - Bi	8 Ci - Co	12 Es - Ez	16 Gp - Gz	20 Ka - Ko	24 Ma - Mi	28 Oa - Oz	32 Ra - Rz	36 Ta - Ti	40 X - Y - Z

RECORDS

Kuczma, H. G.	21	Ruhalter, B.	.....	Washburn, S.	.....
Davidson, C. H.	10	Luciano, K. M.	.....	Marquit, D. H.	.....
Scranton, B.	.....	Scott, E. T.	.....	Whittier, G.	.....
McBee, C. P.	.....	Janovic, A.	.....	Brown, H. W.	.....
Borden, H. C.	.....	Cabot, B. C. L.	.....	Erdely, S. P.	.....
Kilsheimer, B. O.	.....	Forrest, B. S.	.....	Ansul, R. P.	.....
Newman, F. D.	.....	Graves, P. S.	.....	Harris, S. B.	.....
Urban, A.	.....	Alan, S. C.	.....	Nason, R. C.	.....
Abt, E. A.	.....	Revere, P. D.	.....	Kalter, R. V.	.....
Style, E.	.....	Peksbury, P.	.....	Degener, L.	.....
Clinton, C. N.	.....	Laurson, H.	.....	Hughes, H. M.	.....
Ginn, F.	.....	Bell, A. G.	.....	Galton, M.	.....
Morse, F. W.	.....	Crescent, P.	.....	Beatty, T.	.....
Veach, T. B.	.....	Higgs, B. P.	.....	Gormac, H. B.	.....
Simon, M.	.....	Weston, C. B.	.....	Tarnay, S. C.	.....
Lowell, T. T.	.....	Conway, M.	.....	Dyer, C. B.	.....
Fendt, A.	.....	Shortlidge, L. L.	.....	Sawtelle, P. B.	.....
Poll, F. W.	.....	West, D. C.	.....	Metro, D. C.	.....
Yorkley, S. F.	.....	Tirdel, C. O.	.....	Quinn, R. S.	.....
Sperr, R.	.....	O'Regan, P. T.	.....	Tuttle, J. A.	.....
Baker, W.	.....	Ross, S. G.	.....	Rhees, L.	.....

STOP HERE. DO NOT TURN THIS PAGE UNTIL YOU ARE TOLD TO DO SO.

PART III

Instructions: Solve these problems as quickly as you can. When you have finished each problem, write the answer in the space at the right. The sample is done correctly.

				Sample <u>11</u>	
Sample	(1)	(2)	(3)	(4)	(1) _____
6	54	97	$9\overline{)2736}$	$\frac{3}{8} + \frac{1}{2} =$	(2) _____
+5	27	—48			(3) _____
<u>11</u>	<u>+5</u>				(4) _____
	(5)	(6)	(7)	(8)	(5) _____
	$\frac{1}{2} \times \frac{1}{2} =$	\$1.50	596	1246	(6) _____
		<u>$\times 5$</u>	<u>$\times 27$</u>	<u>$\times .4$</u>	(7) _____
					(8) _____
	(9)	(10)	(11)	(12)	(9) _____
57.23 — 2.9 =	352.4	6657732	3478		(10) _____
	979.5	—4986941	<u>$\times 918$</u>		(11) _____
	43.2				(12) _____
	<u>+17.7</u>				
	(13)	(14)	(15)	(16)	(13) _____
$27\overline{)15120}$	324.9	$\frac{7}{8} \div 1\frac{3}{4} =$	\$275 less 20% =		(14) _____
	<u>$\times 4.26$</u>				(15) _____
					(16) _____
	(17)	(18)	(19)	(20)	(17) _____
$(3)^3 =$	24% of 546 =	$364\overline{)4975.88}$	$\sqrt{20736}$		(18) _____
					(19) _____
					(20) _____

PART IV

Instructions: Each of these tables contains ONE — and ONLY one — wrong number. To find the wrong number, first add the columns until you find one which does not add correctly, and then add across until you find a row that adds wrong. At the intersection of these two (that is, where the incorrect row and the incorrect column cross or meet), is the ONE wrong number — mark it with an X. Any one of the numbers or totals may be wrong. The samples at the right are done correctly.

Sample	Total	Sample	Total
2 7 9	18	5 7 9	21
8 5 8	17	12 4 3	19
6 3 1	10	2 6 1	9
Total 16 15 14	45	Total 19 18 13	49

BEGIN HERE

Total	Total	Total	Total
<div> <div>1 6 8 | 10</div> <div>2 9 6 | 17</div> <div>2 3 1 | 6</div> <div>Total 5 13 15 | 33</div> </div>	<div> <div>8 7 2 | 17</div> <div>5 1 6 | 15</div> <div>7 6 6 | 19</div> <div>Total 23 14 14 | 51</div> </div>	<div> <div>5 6 9 | 20</div> <div>2 3 6 | 11</div> <div>7 8 8 | 24</div> <div>Total 14 17 24 | 55</div> </div>	<div> <div>7 6 5 | 16</div> <div>8 4 19 | 31</div> <div>11 13 9 | 33</div> <div>Total 26 23 31 | 80</div> </div>
<div> <div>4 2 7 | 13</div> <div>0 2 1 | 3</div> <div>2 4 6 | 12</div> <div>Total 8 8 14 | 28</div> </div>	<div> <div>2 8 8 | 18</div> <div>2 5 8 | 15</div> <div>5 8 4 | 18</div> <div>Total 10 21 20 | 51</div> </div>	<div> <div>7 3 6 | 16</div> <div>5 12 8 | 25</div> <div>9 9 8 | 26</div> <div>Total 21 34 22 | 67</div> </div>	<div> <div>9 6 9 | 24</div> <div>0 18 12 | 40</div> <div>7 7 36 | 50</div> <div>Total 16 31 57 | 104</div> </div>
<div> <div>3 6 0 | 9</div> <div>9 6 3 | 18</div> <div>0 7 2 | 9</div> <div>Total 12 19 6 | 36</div> </div>	<div> <div>8 4 3 | 15</div> <div>5 9 8 | 22</div> <div>5 4 3 | 12</div> <div>Total 18 17 14 | 48</div> </div>	<div> <div>6 8 4 | 18</div> <div>4 9 6 | 19</div> <div>6 9 4 | 18</div> <div>Total 16 25 14 | 55</div> </div>	<div> <div>14 18 8 | 40</div> <div>24 9 35 | 69</div> <div>21 33 12 | 66</div> <div>Total 59 60 56 | 175</div> </div>
<div> <div>6 4 1 | 10</div> <div>7 9 4 | 20</div> <div>8 9 9 | 26</div> <div>Total 21 22 14 | 57</div> </div>	<div> <div>6 8 0 | 16</div> <div>6 3 3 | 12</div> <div>8 7 2 | 17</div> <div>Total 22 18 5 | 45</div> </div>	<div> <div>12 9 6 | 27</div> <div>4 12 8 | 24</div> <div>3 5 21 | 27</div> <div>Total 19 26 35 | 80</div> </div>	<div> <div>10 24 16 | 50</div> <div>36 16 48 | 102</div> <div>12 36 21 | 69</div> <div>Total 58 78 85 | 221</div> </div>
<div> <div>4 7 7 | 18</div> <div>5 6 5 | 16</div> <div>2 9 6 | 17</div> <div>Total 13 22 18 | 51</div> </div>	<div> <div>4 4 6 | 16</div> <div>5 4 3 | 12</div> <div>9 6 8 | 23</div> <div>Total 18 14 17 | 49</div> </div>	<div> <div>4 14 6 | 24</div> <div>5 4 13 | 21</div> <div>19 16 8 | 43</div> <div>Total 28 33 27 | 88</div> </div>	<div> <div>17 22 17 | 56</div> <div>18 23 24 | 65</div> <div>15 14 22 | 51</div> <div>Total 50 59 64 | 172</div> </div>

STOP HERE. DO NOT TURN THIS PAGE UNTIL YOU ARE TOLD TO DO SO.

PART V

Instructions: Write the answer to each problem on the line at the right. Work quickly and accurately.

1. What is the total cost of two bottles of ink at \$.10 a bottle and one dozen pencils at \$.40 a dozen?....\$_____
2. If peaches are selling at \$.40 a can or \$4.60 per dozen cans, how much is saved on each can by purchasing the dozen cans?.....\$_____
3. One room has 9 rows of filing cabinets with 9 filing cabinets in each row. Another room has 6 rows of cabinets with twelve cabinets in each row. How many more cabinets are there in the first room?..... _____
4. Ink sells at \$.75 a quart. How much will 5 gallons cost?.....\$_____
5. The average cost per pound of sugar, tea, and coffee is \$.30. If sugar costs \$.10 and tea costs \$.45, how much does coffee cost?.....\$_____
6. How many notebooks can be bought for \$3.00 at the rate of 2 for \$.50?..... _____
7. At 8 a.m. the barometric pressure was 30.6 and at 11 a.m. the pressure was 31.8. Assuming a constant rate of increase, what time was it when the pressure was 31.0?..... _____
8. A man earned \$28 and saved \$7. What percent of his earnings did he save?..... %
9. The premium for \$1000 of insurance is \$50.00. What is the premium for \$5500 of insurance?....\$_____
10. A man worked one week from 9:00 to 4:00 with 30 minutes for lunch, and Saturday 9:00 to 1:00. How many hours did he work that week?..... _____
11. One dealer offers 25% discount on a \$100 desk. Another offers successive discounts of 20% and 10% on the same desk. What is the difference between the net prices?.....\$_____
12. An employee received \$20.00 for a 40 hour week. For time worked over this 40 hours he was paid at the rate of $1\frac{1}{2}$ times his regular hourly rate. How much will he receive when he works 52 hours in one week?.....\$_____
13. If a married man makes \$2400 a year and he can deduct \$1500 personal exemption and \$200 for various contributions and taxes, how much does he pay if the balance is taxed at the rate of 5%?.....\$_____
14. A wholesaler sold $\frac{1}{3}$ of his supply of coal to one dealer, $\frac{1}{4}$ of it to another, and the remainder at \$16 a ton for \$8000. How many tons of coal did he have in the first place?..... _____
15. If a piece rate operator earns $\frac{2}{3}$ of a cent per sleeve facing and she gets rate and a half for every one over 2400 per week, what is her wage the week she makes 3100?.....\$_____
16. During his sixth year with the company an employee made \$2500 which is twice as much as he was paid during the first year. If his wage increased an equal amount each year, what was his salary the fourth year?.....\$_____

STOP HERE. DO NOT TURN THIS PAGE UNTIL YOU ARE TOLD TO DO SO.

PART VI

Instructions: Some of the words below are correctly spelled and some are not. Where the spelling is **WRONG**, write the correct spelling in the space following the word. Do nothing when a word is spelled correctly. Work quickly.

already.....

convenient.....

goverment.....

referance.....

accidant.....

fourty.....

deside.....

nuisence.....

accept.....

beleave.....

committe.....

guaranteed.....

bussiness.....

definitly.....

minute.....

ninth.....

realy.....

permenent.....

invoise.....

apologize.....

consideration.....

remittance.....

assure.....

immediatly.....

foriegn.....

morgage.....

responsability.....

bookeeping.....

application.....

desireable.....

develope.....

withhold.....

issue.....

recomend.....

receive.....

acknowlege.....

agreement.....

aquainted.....

arrangment.....

proceed.....

experiance.....

ledger.....

charactor.....

hastely.....

organization.....

adjust.....

athletic.....

interupt.....

practical.....

equipped.....

STOP HERE. DO NOT TURN THIS PAGE UNTIL YOU ARE TOLD TO DO SO.

PART VII

Instructions: Read each paragraph and the statements following it. On the line at the right put the number of the word or phrase which best completes the statement or answers the question. Work quickly and accurately.

The Unfair Trade Practices Act

In 1941, an Unfair Trade Practices Act became law in Kansas. The Act follows closely the model bill of the National Food and Grocery Conference Committee and requires: (1) that a wholesaler must add a markup of at least two percent to the cost of his merchandise; (2) that a retailer must add a markup of at least six percent to the cost of his merchandise; (3) that the cost to the retailer must include cartage from the wholesaler or warehouse which is presumed to be three-fourths of one percent in the absence of proof to the contrary.

1. The Act requires that a wholesaler must: (1) add a 2% markup to the selling price; (2) add a 6% markup to merchandise cost; (3) add a 2% markup to all groceries; (4) add a markup of 2% to merchandise cost.....
2. The cost to the retailer must include: (1) cartage from the wholesaler or the warehouse; (2) cartage from the wholesaler or warehouse of one percent; (3) allowance for wholesale cartage of one quarter of one percent; (4) cartage allowance of three percent.....
3. The Kansas Unfair Trade Practices Act and the National Food and Grocery Conference Committee Bill are: (1) the same; (2) very different; (3) very similar; (4) contradictory.....
4. The cartage costs are always assumed to be three-fourths of one percent: (1) in the absence of contrary evidence; (2) unless the retailer states otherwise; (3) unless the consumer objects; (4) unless they are 1%.....
5. The Act: (1) became law many years ago; (2) was passed by Congress; (3) became law in Kansas; (4) failed to pass in Kansas.....
6. The markup required of the retailer is: (1) the same as that required of the wholesaler; (2) is more than that required of the wholesaler; (3) is less than that required of the wholesaler; (4) is left to the Conference Committee to determine.....
7. The Law is concerned with: (1) the amount the merchant can pay for cartage; (2) the kinds of merchandise he can sell; (3) the number of retailers served by a wholesaler; (4) the prices which merchants must charge.....

Requisition of Supplies and Service

Office supplies regularly stocked consist of such frequently used items as pencils, paper clips, rubber bands, carbon paper, typewriter ribbons, etc. These may be obtained, as needed, by telephoning Mr. Jones and requesting delivery of desired quantity. Monthly statements of stock used by each department will be sent to Department Head for record. Pink order forms should be used for ordering printed material (bills, letterheads, etc.). These should be sent to Mr. Jones via interoffice mail. If repair service is needed for office machines, call Miss Crosby and give her the details (type of machine, difficulty, when needed). When repairs have been made, inform her of this fact so that charges may be approved for payment. When it is necessary to order special items not carried in stock, comparative estimates of cost must be obtained and item ordered from lowest bidder on blue order form, approved by both Department Head and Auditor.

1. A written order is necessary to obtain: (1) all supplies; (2) typewriter repairs; (3) letterheads;
(4) pencils _____
2. Orders for mimeograph repairs will be handled by: (1) Department Head; (2) Mr. Jones;
(3) stockroom; (4) Miss Crosby..... _____
3. On which orders is the Auditor's approval necessary? (1) pink; (2) blue; (3) repairs;
(4) stockroom _____
4. Printed forms are ordered from: (1) Mr. Jones; (2) Miss Crosby; (3) Auditor; (4) printer.... _____
5. Comparative bids should be obtained before ordering: (1) special equipment; (2) repairs;
(3) printed forms; (4) carbon paper..... _____
6. Charges for repairs are approved for payment by: (1) Mr. Jones; (2) Department Head;
(3) Auditor; (4) Miss Crosby..... _____
7. Monthly statements will be sent covering: (1) all supplies used; (2) supplies ordered from
stock; (3) repair service; (4) supplies and repairs..... _____

PART VIII

Instructions: On the line at the right write the NUMBER of the word which means most nearly the same as the word in capitals. The first one has been done correctly. Work quickly and accurately.

NEGLECT	(1) disregard	(2) respond	(3) record	(4) indication	<u>1</u>
1. INVESTIGATION	(1) inquiry	(2) data	(3) punishment	(4) imitation	—
2. SELECT	(1) inherit	(2) release	(3) choose	(4) conform	—
3. PROHIBIT	(1) prevail	(2) command	(3) forbid	(4) annoy	—
4. LOATHE	(1) bristle	(2) detest	(3) abstain	(4) relish	—
5. ACCURATE	(1) valuable	(2) exact	(3) careless	(4) perceptive	—
6. MINIMUM	(1) oldest	(2) best	(3) pleasant	(4) least	—
7. ANONYMOUS	(1) famous	(2) autonomous	(3) suspicious	(4) nameless	—
8. PROCEDURE	(1) method	(2) precedence	(3) production	(4) acquittal	—
9. DEPORTATION	(1) banishment	(2) immigration	(3) potation	(4) derangement	—
10. ACCUMULATE	(1) amass	(2) enforce	(3) disburse	(4) consign	—
11. MEAGER	(1) negative	(2) abundant	(3) fierce	(4) scant	—
12. COMPETENT	(1) congenial	(2) qualified	(3) sluggish	(4) instructive	—
13. TERMINATE	(1) consign	(2) hinder	(3) agree	(4) conclude	—
14. ABOLISH	(1) denounce	(2) end	(3) admonish	(4) renounce	—
15. COMPUTE	(1) create	(2) credit	(3) commence	(4) calculate	—
16. PREJUDICE	(1) opponent	(2) caution	(3) anger	(4) bias	—
17. DILIGENT	(1) industrious	(2) ambitious	(3) honest	(4) wise	—
18. OMNIPOTENT	(1) merciful	(2) almighty	(3) powerless	(4) righteous	—
19. FURTIVE	(1) stealthy	(2) overt	(3) furry	(4) wanton	—
20. OBSOLETE	(1) obese	(2) abstruse	(3) antiquated	(4) callow	—

21. SUBSTANTIATE	(1) patronize	(2) substantive	(3) confirm	(4) subsidize	_____
22. ASSESSMENT	(1) fund	(2) subsidy	(3) toll	(4) assignment	_____
23. REMUNERATION	(1) enumeration	(2) payment	(3) praise	(4) advancement	_____
24. TENTATIVE	(1) conclusive	(2) provisional	(3) limited	(4) simple	_____
25. EXPENDITURE	(1) outlay	(2) choice	(3) future	(4) purchase	_____
26. CHARLATAN	(1) accessory	(2) bystander	(3) clerk	(4) quack	_____
27. CAPITULATE	(1) surrender	(2) revive	(3) adjust	(4) assimilate	_____
28. DISSEMINATE	(1) use	(2) withdraw	(3) spread	(4) orate	_____
29. ANALOGOUS	(1) puzzling	(2) similar	(3) general	(4) false	_____
30. GRATUITOUSLY	(1) freely	(2) slowly	(3) unwilling	(4) quickly	_____
31. LENIENT	(1) smooth	(2) mild	(3) rigorous	(4) heavy	_____
32. RECIPROCAL	(1) agreeable	(2) excessive	(3) pompous	(4) mutual	_____
33. STABILITY	(1) inconstancy	(2) drudgery	(3) steadfastness	(4) laxity	_____
34. RETRACT	(1) repeat	(2) affirm	(3) withdraw	(4) question	_____
35. SPURIOUS	(1) sham	(2) tacit	(3) dogmatic	(4) thin	_____
36. VITIATE	(1) contaminate	(2) imitate	(3) impair	(4) antagonize	_____
37. TENDERED	(1) offered	(2) withdrawn	(3) relied	(4) versed	_____
38. VERIFICATION	(1) denial	(2) supplication	(3) usefulness	(4) confirmation	_____
39. VELOCITY	(1) rate	(2) distance	(3) variance	(4) identity	_____
40. WARRANT	(1) plan	(2) law	(3) authorization	(4) provision	_____

PART IX

Instructions: Some of the following sentences contain grammatical errors. Each incorrect sentence contains only ONE error. When a sentence is incorrect, cross out the one wrong word and write the correct word at the end of the line. When a sentence is correct, be sure to write "correct" at the end of the line.

Samples:

Do not read aloud..... correct

Where ~~was~~ you today?..... were

1. He won't leave me come in.....
2. My brother is taller than me.....
3. She don't want to go home.....
4. Both parts of the drawbridge raise at once.....
5. Don't get this kind of gloves.....
6. I have drank all my milk now.....
7. Will you bring this to the office across the street?.....
8. Neither the president nor the manager are taking a vacation.....
9. Each of them took their own books to school.....
10. No one would tell who he had named.....
11. This record is different from any I have every read.....
12. Three of us salesmen have tied for first place.....
13. The little girl's hand was hurt.....
14. I wish that today was Sunday.....
15. Whom did you say called to see him?.....
16. He was deeply affected by the loss of his brother.....
17. I can't hardly realize that the bill has been passed.....
18. Just between you and I, he is not to be trusted.....
19. I now come to the second of the two topics.....
20. Business conditions will look differently to you after you return from your vacation.....
21. He is one of the best of the buyers who has been employed.....
22. They proved that the work was all right.....
23. Neither the boy or the girl looks like you.....
24. This phenomena is rare.....

STOP HERE. END OF TEST.

CALIFORNIA TEST OF PERSONALITY—ADULT FORM A**A PROFILE OF PERSONAL AND SOCIAL ADJUSTMENT**

Devised by Willis W. Clark, Ernest W. Tiegs, and Louis P. Thorpe

Name.....Occupation or Grade.....

Date.....Age.....Last Birthday.....Sex: M-F

Teacher or
Examiner.....School or
Organization.....

COMPONENTS	Possible Score	Examinee's Score	Percentile Rank	PERCENTILE (Chart percentile rank here)										
				1	10	20	30	40	50	60	70	80	90	99
1. SF. ADJ.	90	—	—	|	|	|	|	|	|	|	|	|	|	|
A. S.-rel.	15	—	—	|	|	|	|	|	|	|	|	|	|	|
B. Per. Wth.	15	—	—	|	|	|	|	|	|	|	|	|	|	|
C. Per. Fdm.	15	—	—	|	|	|	|	|	|	|	|	|	|	|
D. Belg.	15	—	—	|	|	|	|	|	|	|	|	|	|	|
E. Wd. Td. (freedom from)	15	—	—	|	|	|	|	|	|	|	|	|	|	|
F. Ne. S. (freedom from)	15	—	—	|	|	|	|	|	|	|	|	|	|	|
2. SOC. ADJ.	90	—	—	|	|	|	|	|	|	|	|	|	|	|
A. Soc. Sn.	15	—	—	|	|	|	|	|	|	|	|	|	|	|
B. Soc. Sk.	15	—	—	|	|	|	|	|	|	|	|	|	|	|
C. A-s. Td. (freedom from)	15	—	—											
D. Fm. Rel.	15	—	—											
E. Oc. Rel.	15	—	—											
F. Cm. Rel.	15	—	—											
TOTAL ADJ.	180	—	—											

PERCENTILE

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INSTRUCTIONS

After each of the following questions, make a circle around the **YES** or **NO**.

For example, if you have a dog at home make a circle around **YES**. Do the other one the same way.

A. Do you have a dog at home? **YES NO**

B. Can you drive an automobile? **YES NO**

On the next pages are more questions.

The answers are not right or wrong, but show what you usually think, how you usually feel, or what you usually do about things.

Go right on from one page to another until you have finished them all.

SECTION 1 A

1. Is it easy for you to turn down unreasonable requests? YES NO
2. Do you ordinarily give up your plans when there is a good deal of opposition? YES NO
3. Are you easily irritated when people argue with you? YES NO
4. Is it hard for you to continue with your work when it becomes difficult? YES NO
5. Is it easy for you to introduce or be introduced to people? YES NO
6. Do you usually get upset when things go wrong? YES NO
7. Is it hard for you to go on with your work if you are not encouraged? YES NO
8. Do you usually do things that are good for you even if you do not like them? YES NO
9. Is it hard for you to admit it when you are in the wrong? YES NO
10. Is it easier to do things that your friends propose than to make your own plans? YES NO
11. Do you feel uncomfortable when you are alone with important people? YES NO
12. When you have a real grievance, do you usually see that it is settled? YES NO
13. Do you usually feel uneasy when you are around people you do not know? YES NO
14. Do you prefer security to a new position which might pay more? YES NO
15. Does it discourage you when people do not appreciate you? YES NO

Score Section 1 A.....

SECTION 1 B

16. Do people seem to show an unusual interest in the things you are doing? YES NO
17. Do you feel that you are not very good at handling money? YES NO
18. Do you find it hard to get people to accept your ideas? YES NO
19. Do most of your friends have confidence in your ability? YES NO
20. Are you often invited to social affairs? YES NO
21. Do your superiors pay as much attention to you as you deserve? YES NO
22. Are you considered mediocre in many of the things you do? YES NO
23. Do people usually ask for your judgment in important matters? YES NO
24. Do people usually depend upon you for advice? YES NO
25. Do your friends seem to think that you have made the success of which you are capable? YES NO
26. Do you feel as competent in your work as you would like? YES NO
27. Even when you show good judgment, do you often fail to receive proper credit? YES NO
28. Are you considered unusually capable or courageous? YES NO
29. Do most of your friends go out of their way to help you? YES NO
30. Do your friends seem to think that you have outstanding personality? YES NO

Score Section 1 B.....

SECTION 1 C

31. Do you have enough time for recreation? YES NO
32. Do you have to do what other people decide most of the time? YES NO
33. Do you have enough spending money? YES NO
34. Do your responsibilities keep you "tied down" too much? YES NO
35. Are you prevented from managing your own work or career as you wish? YES NO
36. Do you feel that you have enough liberty to do what you like? YES NO
37. Are you free to associate with your friends as much as you like? YES NO
38. Do you feel that you can say what you believe about things? YES NO
39. Are you at liberty to do about as you please during your spare time? YES NO
40. Does your family object to some of your close friends? YES NO
41. Are you usually free to attend the clubs or affairs that you like? YES NO
42. Do you have the opportunity to associate with your friends as much as you like? YES NO
43. Are you often criticized for things that do not amount to much? YES NO
44. Does your family object because you spend too much time with outside friends? YES NO
45. Are you troubled by the fact that economic conditions restrict your freedom? YES NO

Score Section 1 C.....

SECTION 1 D

46. Do you feel that you are an important member of some organization? YES NO
47. Have you been invited to join as many organizations as you deserve? YES NO
48. Do you feel that your relatives are as attractive and successful as those of your friends? YES NO
49. Do your friends and acquaintances seem to have a better time in their homes than you do? YES NO
50. Do you feel at ease in all the groups you attend? YES NO
51. Are you regarded as being as healthy and strong as most of your friends? YES NO
52. Have you often wished that you were a member of a different family or group? YES NO
53. If you are a man, are you liked by the women? If you are a woman, do the men like you? YES NO
54. Have you found it difficult to make as many friends as you wish? YES NO
55. Are you well enough liked so that you feel secure socially? YES NO
56. Are you invited to groups in which both men and women are present? YES NO
57. Do you have enough friends to make you feel happy? YES NO
58. Have you often felt that some people were working against you? YES NO
59. Do your friends ask your advice as often as they should? YES NO
60. Do you usually feel at ease when both men and women are present? YES NO

Score Section 1 D.....

SECTION 1 E

61. Are certain people so unreasonable that you hate them? YES NO
62. Do you find it more pleasant to think about desired successes than to work for them? YES NO
63. Do you find that many people seem perfectly willing to take advantage of you? YES NO
64. Do you have many financial problems that cause you a great deal of worry? YES NO
65. Do you find it hard to meet people at social affairs? YES NO
66. Are your responsibilities and problems often such that you cannot help but get discouraged? YES NO
67. Do you often feel lonesome even when you are with people? YES NO
68. Do you enjoy the quietness of home more than outside groups and friends? YES NO
69. Do you prefer to be alone rather than to have close friendships with many of the people around you? YES NO
70. Would you like to be a boy or girl again? YES NO
71. Do you find it difficult to overcome the feeling that you are inferior to others in many respects? YES NO
72. Do you generally go out of your way to avoid meeting someone you dislike? YES NO
73. Does it seem to you that younger persons have an easier and more enjoyable life than you do? YES NO
74. Are certain people so unreasonable that you dislike them intensely? YES NO
75. Are conditions frequently so bad that you find it hard to keep from feeling depressed? YES NO

Score Section 1 E.....

SECTION 1 F

76. Are you likely to stutter when you get worried or excited? YES NO
77. Do your muscles twitch some of the time? YES NO
78. Are conditions under which you live so bad that they frequently make you nervous? YES NO
79. Do you feel inclined to tremble when you are afraid? YES NO
80. Even though you can conceal it, do you frequently feel irritable? YES NO
81. Do you suffer often from annoying eye strain? YES NO
82. Is it hard for you to sit still? YES NO
83. Are you more restless than most people? YES NO
84. Are you inclined to drum restlessly with your fingers on tables, desks, and chairs? YES NO
85. Do people frequently speak so indistinctly that you have to ask them to repeat their questions? YES NO
86. Do you frequently find that you have read several sentences without realizing what they are about? YES NO
87. Do you find that you are tired a great deal of the time? YES NO
88. Do you often have considerable difficulty in going to sleep? YES NO
89. Are you frequently troubled by serious worries? YES NO
90. Do you have difficulty thinking clearly when you get worried or excited? YES NO

Score Section 1 F.....

SECTION 2 A

91. Are the beliefs of some people so absurd that one is justified in denouncing these beliefs? YES NO
92. Is it all right to avoid responsibility or work if you are not required to do it? YES NO
93. Is it necessary to be friendly to new neighbors? YES NO
94. If they look funny enough is it all right to laugh at people who are in trouble? YES NO
95. Should one be courteous to people who are very disagreeable? YES NO
96. Is it always necessary to express appreciation for help or favors? YES NO
97. Are there times when it is justifiable to borrow other people's property without telling them? YES NO
98. Does finding an article give people the right to keep or sell it after a reasonable time has elapsed? YES NO
99. Is it dishonest to fail to pay a railroad or bus fare if the opportunity presents itself? YES NO
100. Is it right to humiliate publicly those who show disrespect for other people? YES NO
101. Do people who persist in getting into trouble after proper warning deserve sympathy? YES NO
102. Should a person be fair to disagreeable people? YES NO
103. Should one always be more respectful to people of greater wealth? YES NO
104. Is it always necessary to return an article that has been found? YES NO
105. Are people sometimes justified in disobeying the law when it appears to be unfair? YES NO

Score Section 2 A.....

SECTION 2 B

106. Do you find it easy to introduce people to each other? YES NO
107. Is it hard for you to lead in enlivening a dull social affair? YES NO
108. Is it easy for you to talk with people as soon as you meet them? YES NO
109. Can you break away from a social gathering easily? YES NO
110. Do you often assist in planning social gatherings? YES NO
111. Do you usually remember the names of people you meet? YES NO
112. Do you find it difficult to keep from offending people occasionally? YES NO
113. Do you frequently find it necessary to interrupt a conversation? YES NO
114. Do you habitually compliment people when they do something well? YES NO
115. Do you attempt new games at social affairs even when you haven't played them before? YES NO
116. Do you have many friends rather than just a few? YES NO
117. Have you found that it does not pay to be too dependable? YES NO
118. Do you sometimes break into conversation without intending to offend anyone? YES NO
119. Do you find it hard to help others have a good time at social gatherings? YES NO
120. Do you try to get better acquainted with people you do not like? YES NO

Score Section 2 B.....

SECTION 2 C

SECTION 2 D

121. Are you justified in taking things that are denied you by unreasonable people? YES NO
122. Do you often have to stand up for your rights? YES NO
123. Are you often forced to show some temper in order to get what is coming to you? YES NO
124. Do you feel that for the most part one has to fight his way through life? YES NO
125. Do you often have to insist that your friends do things that they don't care to do? YES NO
126. Do you find it easy to get out of trouble by telling "white fibs"? YES NO
127. Do you have to assert yourself more than others in order to get recognition? YES NO
128. Do you believe that society would be better off if people were permitted to behave more nearly as they please? YES NO
129. Do you find that you can get even with disagreeable people? YES NO
130. Are your friends and associates often so unfair that you do not respect them? YES NO
131. Do people often irritate you so that you have to talk back to them? YES NO
132. Does someone at home disturb you so much that you find it necessary to "squelch" them? YES NO
133. Have you found that getting even is better than "taking it" too much of the time? YES NO
134. Do you sometimes think that it serves people right when their property is damaged? YES NO
135. Have you found that using a little force helps convince stubborn people? YES NO

Score Section 2 C.....

136. Is it your feeling that there are some rather serious disadvantages to family life? YES NO
137. Do the members of your family get along as well as you would like? YES NO
138. Does your family seem to believe that you are not thoughtful of them? YES NO
139. Are there things about members of your family that annoy you? YES NO
140. Are things difficult for you because your family is usually short of money? YES NO
141. Are you troubled because members of your family differ from you regarding beliefs and standards? YES NO
142. Are you troubled because some members of your family do not get along well together? YES NO
143. Do members of your family have as good times together as you wish? YES NO
144. Do you like the members of your family about equally? YES NO
145. Does your family appear to think that you are as successful as you might be? YES NO
146. Do you have better times somewhere else than where you live? YES NO
147. Do some of the members of your family usually fail to return favors? YES NO
148. Do friends respect your rights better than members of your family do? YES NO
149. Are some members of your family too extravagant? YES NO
150. Do you avoid inviting people to your home because it is not as attractive as it should be? YES NO

Score Section 2 D.....

SECTION 2 E

(Consider work to mean miscellaneous duties and household work, as well as regular employment. If not employed at present, give your opinion on each question.)

151. Do you worry a lot about your daily work? YES NO
152. Do you feel that most employers keep in mind the welfare of their workers? YES NO
153. Would you be much happier if you had more freedom in your work? YES NO
154. Would you much rather do some other kind of work than you are now doing? YES NO
155. Are you doing the kind of work you like best? YES NO
156. Would you be happier if people appreciated your work more? YES NO
157. Do you feel that many employers are unfair in their methods of making promotions? YES NO
158. Is it your belief that it is often difficult to gain promotions on the basis of merit? YES NO
159. Do you find it easy to approach employers in seeking a different position? YES NO
160. Do you feel that others could make your work easier if they cared to do so? YES NO
161. Would you rather work alone than with others? YES NO
162. Do you find that many people are too critical of the work of others? YES NO
163. Do those with whom you work sometimes seem unreasonable in their dealings with you? YES NO
164. Do you sometimes wonder whether people approve of your work? YES NO
165. Do you have too small a share in deciding matters which affect your work? YES NO

Score Section 2 E.....

SECTION 2 F

166. Have you found that most community social welfare activities are unnecessary? YES NO
167. Are you usually in favor of reducing all public expenses? YES NO
168. Do you feel that many fine families live in your neighborhood? YES NO
169. Are there many people in your community who are unpopular? YES NO
170. Do you often discuss community problems with people in your neighborhood? YES NO
171. Would you welcome most of your neighbors into your home as friends and associates? YES NO
172. Do you think your neighborhood would be better if more people minded their own business? YES NO
173. Does your community do as much for its people as you think it should? YES NO
174. Do most of the people in your community agree with you in political matters? YES NO
175. Do you feel that most of your local public officials are honest and efficient? YES NO
176. Are political issues so involved that you frequently do not vote? YES NO
177. Do you feel that most women's and men's clubs are of doubtful value to their communities? YES NO
178. Is there too much neighborhood gossip in your community? YES NO
179. Do you endeavor to meet new people in your community? YES NO
180. Do you feel that many local businessmen do not merit your patronage? YES NO

Score Section 2 F.....

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